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DEPARTMENT OF AGRICULTURE

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MONTHLY REPORT.

DEPARTMENT OF AGRICULTURE,
STATISTICAL DIVISION,
Washington, D. C., July, 1875.

SIR: An investigation of the rate of wages of farm-laborers in the United States, for the purpose of instituting a comparison between the wages of the present time and the rates reported in the returns of 1866 and 1869, has been undertaken, and its results are herewith communicated. There is also presented a statement of the condition of the principal crops on the 1st of July, with minor statistics of rural industry, and results of the labors of other divisions of this Department.

J. R. DODGE,
Statistician.

Hon. FREDERICK WATTS,
Commissioner.

THE RATE OF WAGES OF FARM-LABORERS IN THE UNITED STATES.

In December, 1866, and in the same month in 1869, an investigation was undertaken to show the prevailing rates paid for agricultural labor in the several States. It was known that rural wages had felt the inflatory impulse which had affected in different degrees all values, whether of actual labor or the accumulation of past labor in a thousand tangible forms. There had never been a systematic and general effort to obtain these statistics previously, but Mr. H. C. Carey, some thirty years previously, had made a careful estimate, from the best information obtainable, and had placed the average wages of the country at $9 per month with board. In the investigation of 1866, which included 1,510 statements, most of them representing counties, the average rate was $15.50 with board, showing an increase in one generation, and mainly in the last five years of the period, of 72 per cent. At the same time the average rate without board was about $26, and the average for the States employing white labor $28, or $336 per annum. At this date, according to the best authorities, the English farm-laborer was earning, including the value of all extras and allowances, $182. It was also noted, as illustrating the extent of our demand for labor, that this increased rate had been attained in the face of the immense immigration of the previous years.

The next three years witnessed a material decline in the value of farm-products, but farm-labor held its position better, as in the second investigation the average rate had only declined to $25.13 for farm-laborers

employed by the year without board, while the rate with board, $15.88, was a little in advance of the previous average, the difference representing board being $9.25 against $10.50 in 1866. Prices in the South had increased in these three years, had been well sustained in the Eastern States, but had slightly receded in the Western.

The present investigation gives evidence of a decline in the rate of wages of laborers employed by the year, far greater than that reported in 1869. The average rates for the three periods, for the several geographical divisions, are as follows:

	May, 1875.	December, 1869.	December, 1866.
Eastern States	$29 00	$32 03	$33 30
Middle States	26 98	29 15	30 07
Western States	23 25	27 01	28 91
Southern States	15 27	16 81	16 00
California	44 50	46 38	45 71

The central belt of States, on the parallel of 40°, fairly represent the most prosperous agricultural regions, and illustrate the decline in price of farm-labor during the past eight years:

	1875.	1869.	1866.
Pennsylvania	$25 89	$28 68	$29 91
Ohio	24 45	26 35	28 46
Indiana	24 20	25 42	27 71
Illinois	25 20	27 32	28 54
Iowa	24 35	28 39	28 34

Up to 1869 the demand for labor in Iowa for the opening of new farms and extension of the producing area of those already opened kept prices up to the point of 1866, while all the States eastward exhibited a decline. During the past five years, an era of overproduction and low prices in Iowa, the depreciation has been greater than any others of this list.

Perhaps a better understanding of the actual status of labor in these States may be obtained by a comparison of the average prices per month of farm-labor with board, much the larger number of farm-laborers being employed under such a contract. The prices in these States are as follows:

	1875.	1869.	1866.
Pennsylvania	$16 10	$18 05	$18 84
Ohio	16 33	16 74	18 96
Indiana	16 14	17 03	18 72
Illinois	16 87	17 69	18 72
Iowa	16 11	17 87	18 87

The uniformity of the rates of 1866 is somewhat remarkable, yet a careful examination of circumstances affecting prices will prove the consistency of the statement. If the various prosperous industries of Pennsylvania and Ohio stimulated the wages of agricultural industry, the great demand in States farther west for increasing numbers of farm-animals to make good the depletion caused by the war, and a similar cause for enlarging food-supplies, upheld the rates in the more purely agricultural States. In 1869 prices had receded, quite equally in the

grain-producing States, but much more in Ohio than in Pennsylvania, where prices were sustained by the prosperity of the iron interest and other manufacturing enterprises.

Table showing the average rate of wages of agricultural labor per month, when employed either by the year or season.

States and Territories.	1875.				1869.				1866.			
	By the year.		By the season.		By the year.		By the season.		By the year.		By the season.	
	Without board.	With board.	Without board.	With board.	Without board.	With board.	Without board.	With board.	Without board.	With board.	Without board.	With board.
Maine	$25 40	$15 94	$29 28	$20 56	$26 25	$16 50	$31 00	$21 44	$27 00	$17 44	$31 76	$23 07
New Hampshire	28 57	18 25	34 75	23 50	32 66	22 16	39 83	29 13	32 74	22 48	39 12	28 43
Vermont	29 67	19 37	32 71	21 94	32 40	21 40	39 00	27 28	32 84	21 00	37 44	25 72
Massachusetts	31 87	20 25	38 50	23 25	35 95	22 16	41 00	27 75	38 94	22 36	41 61	27 83
Rhode Island	30 00	19 00	35 00	22 50	32 25	20 00	38 00	25 50	34 40	20 50	40 00	26 33
Connecticut	28 25	18 50	36 00	23 25	33 00	20 75	38 50	25 50	34 25	21 54	39 66	28 30
New York	27 14	17 80	31 41	21 48	29 28	18 64	34 29	23 05	29 57	19 32	34 88	24 26
New Jersey	30 71	16 78	37 75	20 37	32 11	19 02	34 38	22 47	32 27	18 98	33 13	23 78
Pennsylvania	25 89	16 10	30 00	18 50	28 68	18 05	33 00	22 21	29 91	18 84	34 10	22 87
Delaware	20 33	11 67	24 50	15 33	22 00	13 00	25 00	17 50	24 93	13 25	26 25	15 25
Maryland	20 02	11 42	22 27	13 47	21 55	12 00	24 70	15 29	20 36	12 76	23 83	15 58
Virginia	14 84	9 21	16 31	11 20	15 28	9 65	17 83	12 55	14 82	9 36	17 21	12 09
North Carolina	13 46	8 82	15 17	10 67	12 76	7 91	14 98	10 05	13 46	8 15	15 18	10 00
South Carolina	12 84	8 19	14 57	10 50	11 54	7 34	13 47	9 81	12 00	7 66	14 00	9 46
Georgia	14 40	8 79	16 47	11 67	14 70	9 70	17 66	12 75	15 51	9 67	18 45	12 07
Florida	15 50	10 75	19 50	10 60	16 10	10 91	21 25	14 00	18 00	12 12	20 55	14 46
Alabama	13 60	9 40	16 75	12 05	15 19	10 52	17 57	12 70	13 40	9 80	16 38	11 00
Mississippi	16 40	11 25	19 00	13 50	17 11	11 21	20 08	16 86	16 72	11 58	22 58	16 80
Louisiana	18 40	12 20	18 75	12 53	21 37	12 62	27 08	18 46	20 50	12 42	22 25	18 34
Texas	19 50	13 37	23 17	16 57	18 83	13 21	21 16	16 97	19 00	12 72	23 73	16 76
Arkansas	20 50	13 00	23 30	18 00	25 25	16 60	27 14	18 66	24 21	15 80	29 61	19 46
Tennessee	15 20	10 00	18 40	12 53	16 81	11 00	19 52	13 95	19 00	12 58	22 00	16 61
West Virginia	20 75	13 10	23 40	16 12	21 39	13 87	25 83	17 62	25 35	16 47	29 34	21 20
Kentucky	18 12	12 00	21 31	14 85	18 84	12 57	21 34	14 89	20 23	13 65	23 80	17 06
Ohio	24 05	16 33	26 47	19 45	26 35	16 74	31 78	21 72	28 46	18 96	32 45	23 15
Michigan	28 22	18 46	32 10	22 00	31 01	20 03	34 01	24 35	31 26	20 48	34 95	24 15
Indiana	24 20	16 14	28 44	19 50	25 42	17 03	30 47	20 81	27 71	18 72	31 50	22 50
Illinois	25 20	16 87	28 70	19 45	27 32	17 69	31 04	21 28	28 54	18 72	33 09	23 30
Wisconsin	25 50	16 45	29 37	20 05	30 08	18 47	34 00	22 83	30 84	19 87	35 65	24 60
Minnesota	26 16	16 36	30 65	20 80	28 61	17 94	34 84	23 54	31 65	21 10	38 40	27 17
Iowa	24 35	16 11	27 75	19 50	28 39	17 87	33 64	22 44	28 34	18 87	33 24	23 82
Missouri	19 40	13 15	22 88	16 33	24 47	16 38	29 75	21 31	26 75	18 08	30 84	21 66
Kansas	23 20	14 65	25 80	17 15	28 96	18 38	33 46	22 75	31 03	19 81	36 40	25 46
Nebraska	24 00	14 75	28 25	18 35	33 25	19 18	38 33	25 70	38 37	24 64	46 42	31 36
California	44 50	28 60	52 20	36 00	46 38	28 69	57 08	36 25	45 71	30 35	50 00	34 39
Oregon	38 25	25 67	40 25	29 20	.....	.....	.....	.....	35 75	22 53	41 60	29 00
Nevada	.....	.....	.....	.....	.....	.....	.....	.....	75 00	60 00	85 00	70 00
Colorado	38 50	21 14	41 87	24 64	.....	.....	.....	.....	67 50	42 12	79 16	50 00
Utah	35 50	25 33	43 00	33 00	.....	.....	.....	.....	44 71	26 32	58 22	38 41
Washington	35 00	24 83	41 66	32 50	.....	.....	.....	.....	52 25	36 25	60 50	44 50
Dakota	32 50	20 50	37 33	24 50	.....	.....	.....	.....	30 20	20 00	32 00	22 00
New Mexico	22 75	14 25	23 75	15 00	.....	.....	.....	.....	25 00	16 50	30 00	25 00
Montana	45 00	30 00	56 50	41 00	.....	.....	.....	.....	.....	.....	.....	.....
Wyoming	47 50	32 50	60 50	44 75	.....	.....	.....	.....	.....	.....	.....	.....

☞ The average price of "farm-labor, with board," in the United States, according to these tables, is $12.40 at the present time. This would make a decline of nearly 22 per cent. since 1869. A part of this difference, however, is found in the disproportion in numbers of laborers of the higher and lower classes in efficiency and money-value. The calculations are based on the numbers given respectively in the censuses of 1860 and 1870; and in the latter the slaves of the former period, who had no place in that enumeration, are included as farm-laborers, increasing the proportion of low-priced labor and consequently

reducing the average. The average price of labor, with board, in the Southern States, is $10.17; in the Western, $13.66; in the Middle, $16.81; in the Eastern, $18.58; on the Pacific coast, $28.12; in the Territories, $18.25.

Table showing the rate of wages of agricultural labor per day in transient service.

States and Territories.	1875.				1869.				1866.			
	In harvest, (without board.)	In harvest, (with board.)	Other than in harvest, (without board.)	Other than in harvest, (with board.)	In harvest, (without board.)	In harvest, (with board.)	Other than in harvest, (without board.)	Other than in harvest, (with board.)	In harvest, (without board.)	In harvest, (with board.)	Other than in harvest, (without board.)	Other than in harvest, (with board.)
Maine	$1 99	$1 49	$1 46	$1 05	$2 17	$1 65	$1 48	$1 05	$2 02	$1 56	$1 49	$1 13
New Hampshire	2 06	1 64	1 50	1 12	2 37	1 95	1 79	1 41	1 98	1 52	1 67	1 26
Vermont	2 28	1 85	1 51	1 11	2 46	2 00	1 76	1 28	2 32	1 85	1 76	1 32
Massachusetts	1 90	1 50	1 44	1 12	2 37	1 95	1 92	1 37	2 41	1 92	1 83	1 38
Rhode Island	2 00	1 50	1 62	1 18	2 37	1 75	1 73	1 18	2 23	1 71	1 83	1 33
Connecticut	2 06	1 53	1 50	1 16	3 00	2 37	1 87	1 37	2 43	1 90	1 75	1 29
New York	2 25	1 75	1 48	1 06	2 53	1 99	1 64	1 19	2 41	1 92	1 75	1 23
New Jersey	2 56	2 03	1 45	1 00	2 63	2 09	1 63	1 15	2 68	2 38	1 68	1 20
Pennsylvania	2 01	1 51	1 37	95	2 23	1 73	1 43	1 04	2 32	1 80	1 59	1 10
Delaware	1 83	1 41	1 04	70	1 87	1 50	1 30	95	2 09	1 62	1 31	94
Maryland	1 81	1 34	1 06	71	2 16	1 67	1 20	77	2 00	1 68	1 31	96
Virginia	1 48	1 21	78	51	1 48	1 13	80	55	1 46	1 21	82	57
North Carolina	1 17	1 00	72	51	1 37	1 04	74	49	1 53	1 17	72	50
South Carolina	1 17	1 01	71	55	1 15	90	70	50	1 25	93	69	45
Georgia	1 29	99	83	60	1 24	90	83	60	1 48	1 06	99	70
Florida	1 00	72	93	70	1 25	87	96	72	1 12	83	1 00	74
Alabama	1 40	1 15	75	53	1 24	95	86	61	1 27	1 04	78	55
Mississippi	1 40	1 00	1 07	80	1 56	1 27	1 10	90	1 65	1 14	1 34	89
Louisiana	1 30	1 05	1 00	74	1 54	1 13	1 04	83	1 66	1 20	1 08	70
Texas	1 52	1 20	1 14	84	1 58	1 26	1 16	84	1 65	1 32	1 31	98
Arkansas	1 50	1 25	1 10	80	1 67	1 40	1 36	1 02	2 07	1 52	1 34	88
Tennessee	1 62	1 20	95	60	2 10	1 59	1 05	68	2 01	1 54	1 15	83
West Virginia	1 55	1 20	1 05	75	1 78	1 29	1 14	79	1 78	1 31	1 31	92
Kentucky	1 79	1 46	1 03	72	1 83	1 38	1 10	77	2 10	1 70	1 21	86
Ohio	2 05	1 60	1 35	1 00	2 15	1 72	1 44	1 05	2 20	1 73	1 54	1 13
Michigan	2 50	2 00	1 55	1 10	2 76	2 25	1 66	1 17	2 62	2 14	1 78	1 30
Indiana	2 20	1 75	1 30	95	2 16	1 77	1 36	1 01	2 23	1 76	1 45	1 06
Illinois	2 20	1 83	1 37	1 01	2 34	1 94	1 50	1 13	2 41	1 91	1 62	1 21
Wisconsin	2 40	1 92	1 42	1 00	2 45	1 96	1 56	1 15	2 68	2 15	1 78	1 28
Minnesota	2 82	2 30	1 50	1 07	2 90	2 36	1 64	1 18	2 68	2 27	1 75	1 35
Iowa	2 57	2 10	1 38	1 01	2 85	2 24	1 52	1 13	2 38	1 88	1 62	1 19
Missouri	1 75	1 43	1 07	73	2 30	1 84	1 44	1 02	2 15	1 72	1 44	1 07
Kansas	1 86	1 46	1 30	90	2 08	1 63	1 56	1 12	2 31	1 82	1 65	1 19
Nebraska	2 40	1 98	1 43	1 00	2 41	2 00	1 62	1 26	2 65	2 15	1 93	1 43
California	2 50	2 00	1 84	1 30	2 82	2 04	2 13	1 50	2 56	2 06	2 26	1 72
Oregon	2 11	1 72	1 47	1 15	.....	.....	.....	.....	2 40	1 80	1 75	1 40
Nevada	.....	.....	.....	.....	.....	.....	.....	.....	3 50	3 00	3 00	2 50
Colorado	2 33	1 50	1 75	1 16	.....	.....	.....	.....	4 17	2 87	3 29	1 93
Utah	2 20	1 75	1 80	1 40	.....	.....	.....	.....	3 42	2 49	2 27	1 63
Washington	2 40	2 00	1 66	1 31	.....	.....	.....	.....	3 00	2 25	2 25	1 75
Dakota	2 37	1 90	1 62	1 08	.....	.....	.....	.....	2 50	2 00	2 00	1 50
New Mexico	1 35	90	85	50	.....	.....	.....	.....	1 50	1 12	1 00	90
Montana	3 00	2 20	2 16	1 75	.....	.....	.....	.....	.....	.....	.....	.....
Wyoming	.....	3 62	3 08	2 36	.....	.....	.....	.....	.....	.....	.....	.....

The difference between the prices paid, with and without board, represents the cost of boarding, yet many correspondents say that the usage of employment with board is so uniformly the rule that few farmers are willing to pay any material addition to the wages of those who propose to board themselves. Notwithstanding this element of irregularity, the figures of the table below are in the main quite consistent with the local circumstances affecting prices of boarding.

Table showing the average price of board per month of agricultural laborers hired by the year.

States.	1875.	1869.	1866.	States.	1875.	1869.	1866.
Maine	$9 46	$9 75	$9 56	Kentucky	$6 12	$6 21	$6 58
New Hampshire	10 32	10 50	10 76	Ohio	7 72	9 61	9 50
Vermont	10 30	11 00	11 84	Michigan	9 76	10 98	10 78
Massachusetts	11 62	13 79	16 58	Indiana	8 06	8 39	8 99
Rhode Island	11 60	12 25	13 90	Illinois	8 13	9 63	9 82
Connecticut	9 75	12 25	12 71	Wisconsin	9 05	11 61	10 97
New York	9 34	10 64	10 25	Minnesota	9 80	10 67	10 55
New Jersey	13 93	13 09	13 29	Iowa	8 24	10 52	9 47
Pennsylvania	10 39	10 63	11 07	Missouri	6 25	8 09	8 67
Delaware	8 66	9 00	11 63	Kansas	8 55	10 58	11 22
Maryland	8 60	9 55	7 60	Nebraska	9 25	14 07	13 73
Virginia	5 63	5 63	5 46	California	15 90	17 69	15 36
North Carolina	4 64	4 76	5 31	Oregon	12 58	.....	.....
South Carolina	4 05	4 20	4 34				
Georgia	4 79	5 00	5 84	TERRITORIES.			
Florida	4 75	5 19	5 88				
Alabama	4 20	4 67	3 60	Colorado	17 36	.....	.....
Mississippi	5 15	5 90	5 14	Utah	10 17	.....	.....
Louisiana	6 20	8 75	8 08	Washington	10 17	.....	.....
Texas	6 13	5 62	6 28	Dakota	12 00	.....	.....
Arkansas	7 50	8 65	8 41	New Mexico	8 50	.....	.....
Tennessee	5 20	5 81	6 42	Montana	15 00	.....	.....
West Virginia	7 65	7 52	8 88	Wyoming	15 00	.....	.....

HARVESTING AND GARNERING.

The following summary from our reports shows the leading points in the local usages in different parts of the country in harvesting and garnering grain. It will be seen that thrashing is, in most cases, done by a class of men who devote their time and capital to this business, at least during a portion of the year. Boarding the hands is a custom almost universal in all the States. The points of widest variation are found in the respective amounts of labor and motive-power furnished by the thrasher or the farmer.

In New England, according to universal custom, the thrashing-machinery is owned by professional thrashers, who itinerate from farm to farm, and thrash out the grain either for a specified sum per day or per bushel, or for a toll of the thrashed grain, ranging from a fifteenth to a tenth of the whole. The thrasher furnishes from two to four horses and two men; the farmer furnishes the other teams and labor. In several counties in Northern New England the thrasher gets from $5 to $6 per day, besides board for man and horse. The machines used in such cases usually thrash 100 bushels of wheat or 200 bushels of oats per day; hence, where the job is paid for by the bushel, wheat is charged at twice the price of oats; wheat costs from 5 to 12 cents per bushel, and oats from 4 to 7 cents. The highest cash-rates noted in New England counties is in Sagadahoc, Maine, where the thrasher receives 7 cents per bushel for oats, 8 cents for barley, and 12 cents for wheat. In some cases, the farmer hires the machine and runs it himself. Occasionally the two-horse tread-machine is used, but in general the apparatus employed embraces the latest improvements, and requires from eight to ten horses to drive it. No reports of steam-machinery in this region. In many counties the grass-crop and dairy-farming have restricted grain-raising to a very narrow area, rendering the thrashing operation so unimportant that the use of machinery would not be profitable. In Norfolk, Massachusetts, thrashing is done almost entirely with the flail. In the three southern New England States, machinery, in both thrashing and harvesting, is used to only a limited extent, on account of the small amount of grain-farming.

In the Middle States steam-power is, in many places, superseding horse-power, a circumstance which necessarily modifies the arrangements for thrashing. In such cases the thrasher sends one or two hands, an engineer, and a machine-feeder, while the farmer finds coal and water and boards the men, besides furnishing labor sufficient to take the straw from the machine and arrange it in stacks. Steam-thrashing on such terms generally costs about 5 cents per bushel for wheat, 4 cents for barley, and 3 cents for oats, besides the extra labor hired by the farmer. In Camden, New Jersey, wheat is thrashed by steam at 10 cents per bushel or by horse-power at 8 cents; in such cases, however, the thrasher furnishes a larger proportion of the labor. In Lancaster, Pennsylvania, steam-machinery thrashes 400 bushels per day at 6 cents, while in Juniata, the steam-separator delivers the grain ready for market at 5 cents per bushel. Steam-machinery is also used extensively in other counties in Pennsylvania, and in New Castle, Delaware. In a few counties the small two-horse tread-machines are used. This is generally the case where farmers use their own machinery and employ wet or winter weather in thrashing grain in their own barns. Such farmers often thrash the grain of their neighbors, tolling every tenth or twelfth bushel for their services. Where men engage as professional thrashers, they find it more profitable to invest their capital in machines of greater power and capacity. These machines require from two to six horses for their transportation from farm to farm. This horse-power is utilized in driving the machinery, the farmer supplying horses enough to make a team of six to twelve animals. The thrasher either feeds the machine himself or hires a man for this service, and another to drive the team; the farmer hires men enough to make up a gang of twelve or fifteen. The efficiency of these machines is attested by the prices charged for their use, amounting, in some counties, to $10 per day, with board for two men and two horses. Machines of inferior capacity realize about $6 per day. In some cases these machines thrash wheat at 4 cents per bushel; barley, 3 cents; oats or buckwheat, 2 cents. Where the thrasher furnishes the entire horse-power the cost is greater, rising to 10 cents for wheat and 4 cents for oats. In some counties the thrasher tolls the thrashed grain, receiving from 4½ to 8 per cent. of wheat, and nearly double of oats. Occasionally the thrasher receives from 35 to 50 cents per hundred sheaves, wheat sheaves averaging about 6 bushels of thrashed grain per hundred. There is considerable variation in the minor details, but the general usages are mostly the same. The tendency is toward the use of the latest improvements in labor-saving machinery.

Maryland is usually classed with the South Atlantic Coast States, but its agricultural character is more assimilated to the Middle States. Thrashing arrangements especially indicate the more progressive tendencies of States to the north. Steam-machinery is in growing use, and the terms of its employment are about the same as in the Middle States. Labor for thrashing is cheaper than farther north. The owner of the machine generally finds an engineer, feeder, and bagger, and receives 5 cents a bushel for thrashing wheat, or 8 cents for thrashing, separating, and delivering ready for market; the farmer pays for the coal. There is a greater variety of usage than in the Middle States in regard to the proportion of labor and motive-power furnished by the farmer and the thrasher, which occasions a different rate of cost. In Frederick County, for instance, where the farmer usually furnishes the teams and all the hands but two, the thrasher gets but three and a half cents per bushel for wheat. Where the thrasher furnishes a large proportion of the teams, he gets a larger price for thrashing. Some machines also deliver the grain more completely prepared for market,

which of course enhances the cost. In Virginia the custom of farmers owning the machines is still prevalent in many counties. In some cases a number of farmers club together for the purchase of machinery and thrash their own grain and that of neighbors not members of the association. Such machines are not apt to be of a very costly construction, or to be capable of very rapid execution. The work in such cases is postponed to rainy days or to the winter, after farm-operations are generally closed. Such a system does not favor the rapid marketing of the grain. In several counties where the class of large farmers is more numerous, each proprietor owns a machine. Such a county is Essex, where, including wear and tear of machinery, the average cost of thrashing wheat is estimated at 10 cents per bushel. In Buchanan and a few other counties the flail is still used, the thrasher getting every twelfth bushel. But the use of more effective machinery is gaining ground. In some cases thrashers contract to thrash crops by the field or acre. In others machines are hired by the day or by the bushel. Thrashing by contract would come into more general use if large farmers could afford to await their turn with the smaller ones. Occasional mention is made of steam-power, as in Clarke County, but this is unknown in the greatest portion of the grain-raising area of the State. Usages greatly vary as to the proportion of labor and motive-power furnished by the farmer and the thrasher. The latter generally uses the teams necessary to transport his machinery, and receives from 3 to 10 cents per bushel, or tolls from 5 to 10 per cent. of the thrashed grain. In some cases he gets $5 for setting up his machine, and a certain price per bushel or percentage of the grain for his share. The farmer furnishes all the help needed to take the straw from the machine and to stack it. Passing down the coast grain-raising becomes a less prominent industry. In many counties of North Carolina the wheat raised is so inconsiderable in quantity that no mention is made of thrashing. The amount of grain raised is also too small to render it profitable for farmers to run separate machines, while the principle of association in the ownership of this class of machinery is nowhere developed. Itinerant thrashers transport their machinery from farm to farm and perform this service in many counties on terms very similar to those noted in Virginia. The cost of thrashing wheat ranges from 3 to 10 cents per bushel, or from 5 to 8 per cent. of the grain thrashed. There is also the same variety of usage in regard to the amount of labor and motive-power furnished by the farmer and thrasher. From the amount of motive-power required in some counties, it is inferred that machines of a higher order are gaining ground. No case of steam-machinery is reported. Grain-raising is of still less importance in South Carolina, and the process of thrashing is comparatively rude and incomplete. In some cases large planters own the machinery and thrash at leisure. Itinerant thrashers are becoming more common. The latter generally toll every tenth or twelfth bushel. In Greenville, machines of 8 horse-power are used; the motive-power is mostly furnished by the thrasher. In Georgia the arrangements for thrashing are more progressive, and approximate the usages in Virginia and Maryland. Itinerant thrashers often furnish most of the labor and motive-power, and toll one-tenth of the thrashed grain. In some cases a party contracts to harvest and thrash the crop for one-third of its proceeds. In Dooly County the thrasher charges 20 cents per bushel, he furnishing three hands and two horses. In several counties, machines of large motive-power are used.

In the Gulf States grain-raising is too limited to give rise to any well-defined usages of thrashing. No statements of usage on this question

have been received from Florida or Louisiana, and very few from Alabama or Mississippi. In Texas a somewhat uniform custom allows one-tenth of the grain thrashed to the itinerant thrasher. In many counties in the Gulf region what little grain is raised is thrashed with the flail. In some cases the grain is thrashed by means of the driving machinery of the cotton-gin attached to the thrashing-machine.

In the southern inland States thrashing usages become more definite toward the northern sections. In Arkansas the toll of 10 per cent. of the thrashed grain is almost universal. The thrasher in all cases finds the motive-power, no steam-machinery being reported. In Tennessee, no steam-machines are reported, but the motive horse-power is always large. The toll varies from one-fifteenth to one-tenth, the grain being generally cleaned and ready for the sack. Occasionally the thrasher is paid in cash at from 6 to 10 cents per bushel. The thrasher furnishes most of the motive-power. In West Virginia and Kentucky, steam-machinery is frequently noted. Tolling the grain is less common than farther south. The cash price of thrashing ranges from 5 cents to 12½ cents per bushel, according to the completeness of the work, the number of hands hired by the thrasher, &c. In Berkeley, West Virginia, if horse-power is used, the thrasher finds one hand and all the horses but two; in the case of steam-power he hires four hands. Steam-machinery requires generally from 14 to 16 hands in addition to those managing the machine. The farmer always boards the horses and men brought by the thrasher.

North of the Ohio the usages are quite uniform, and not greatly different from those of West Virginia and Kentucky. Steam-machinery is very common in large portions of this section. In some cases these machines require a working force of seventeen to twenty men, and thrash from 400 to 800 bushels per day. The thrasher usually furnishes an engineer and feeder, with one or two other hands, and receives from 3 to 8 cents per bushel. The toll system is scarcely mentioned in all this region. The horse-machines are generally of very great power, requiring from eight to twelve horses and a large gang of men to work. The prices do not greatly differ from those of steam-machinery. In some counties it is estimated that the amount paid the thrasher is about half the total cost of the operation to the farmer. The proportion, however, varies with the amount of motive-power and labor furnished by the thrasher or the farmer. In some cases the farmer, and in others the thrasher, furnishes all the teams.

West of the Mississippi the ten-horse machine is in most general use, 6 horses being furnished by the thrasher and 4 by the farmer, though these proportions are sometimes varied. In some counties these will average 300 bushels of wheat per day, and steam-machines will turn out 700 per day. In the latter case the total cost does not exceed 11 cents per bushel; in the case of horse-machines the thrasher receives from 4 to 6 cents per bushel for wheat, while the other expenses bring the entire cost to 10 or 11 cents. The thrasher brings generally about two men with him and the farmer from seven to nine, making the average number of the gang about ten or twelve. Some large steam-machines require twenty men to supply the sheaves and take away the straw, besides three men to run the machine. In Nebraska and in some parts of Missouri and Kansas the usage is for the thrasher and farmer to furnish an equal number of horses. In only one case is there mentioned anything like a tendency to toll the thrashed grain. The smallest total cost is in Nebraska.

Passing to the Pacific coast, the increased size of machines and en-

hanced motive-power are especially noticeable. In some cases the daily task of these machines is stated at from 1,000 to 2,000 bushels of wheat per day. Steam is the motive-power in most of these cases, though eighteen or twenty horses are often used, accompanied by gangs of twenty or twenty-five men. The motive-power is generally furnished entirely by the owner of the machine, with men enough to operate it. Thrashing hands are paid higher wages than in the Eastern States; engineers receive $4 per day and other hands from $1.50 to $3; feeders and sack sewers, in Tuolumne County, get about $5. The farmer in most cases boards the hands. The price per bushel for thrashing and separating wheat ranges from 4 to 10 cents per bushel. No reports of steam-thrashing have been received from Oregon, but the machines generally require a large amount of horse-power. The price paid the thrasher is from 4 to 6 cents per bushel, but the total cost of the operation is often 10 cents, including the labor and motive-power furnished by the farmer, the boarding of hands, &c.

RECAPITULATION.—Wheat is the great money-crop of the Middle, Western, and Pacific States, and here its early marketing is often one of the pressing necessities of the farmer. This requires that the grain be thrashed and cleaned as speedily as possible; hence machinery of great efficiency and motive-power, especially steam-power, are found most economical. It will be seen, by consulting the accompanying tables, that the smallest total cost of thrashing wheat—5.8 cents per bushel—is found in California, where the most extensive machinery is used. The greatest cost—19.2 cents—is in South Carolina, where steam-machinery is unknown, and where the planters, to a great extent, thrash their own crops. In northern New England it ranges from 10 to 13 cents per bushel. In the Middle States it runs from 7.7 cents in Pennsylvania to 10.5 in New Jersey. Maryland averages 6.8 cents. The average increases to the southward, varying from 9.7 cents in Virginia to 19.2 in South Carolina. The Gulf States range from 14.1 cents in Texas to 16 cents in Mississippi. The inland Southern States from 8.7 cents in West Virginia to 12 cents in Arkansas. North of the Ohio River and west of the Mississippi no State averages more than $7\frac{1}{2}$ cents, while in Nebraska the cost averages as low as 5.8 cents. On the Pacific coast, California averages 5.8 cents and Oregon 6.4 cents. The cost of thrashing oats is generally about half the cost of wheat, ranging from 3.4 cents per bushel in Nebraska to 13.3 cents in Massachusetts. In the Middle and Western States the general average is between 4 and 5 cents.

Table showing the average prices per acre of harvesting and stacking wheat and hay, and per bushel of harvesting wheat and oats, and of husking and cribbing, and of shelling corn.

States and Territories.	1875.						
	Price per acre of harvesting and stacking wheat, including all the labor of men and horses.	Price per bushel of thrashing and separating wheat.	Price per bushel of thrashing and separating oats.	Price per bushel of husking and cribbing corn.	Price per bushel of shelling corn.	Price per acre of cutting, curing, and stacking hay.	Price per acre of cutting hay only.
Maine	$4 00	$0 12.8	$0 05.4	$0 07	$0 08.6	$3 36	$1 02
New Hampshire	5 12	10.5	07.5	07.3	03.3	4 57	1 62
Vermont	.....	13.2	04.1	04.7	04.5	2 69	83
Massachusetts	.....	.....	13.3	11	05	3 50	1 25
Rhode Island	.....	.....	.....	08	08	8 00	2 00
Connecticut	.....	.....	05.5	.....	.....	3 75	1 62
New York	3 28	08	04.4	07.1	03.2	2 66	95
New Jersey	3 90	10.5	06.1	04.6	02.6	2 75	93
Pennsylvania	3 53	07.7	04.6	07.4	03.2	3 15	96
Delaware	2 60	10	06.6	05.3	02.6	2 16	1 25
Maryland	3 05	06.8	04	05.5	02.8	2 72	1 12
Virginia	2 04	09.7	06.7	05	03.5	2 25	97
North Carolina	1 36	11.6	07.1	04.4	04.3	2 20	1 16
South Carolina	1 58	19.2	13.2	05	05	1 75	92
Georgia	2 01	14	09.3	08.5	04.2	3 21	1 64
Florida	.....	.....	07	05	04	3 00	87
Alabama	1 25	15	10	.....	.....	2 50	1 00
Mississippi	2 00	16	13.1	12.6	07	3 15	1 25
Louisiana	.....	.....	.....	09	.....	6 50	1 62
Texas	3 17	14.1	10.6	07.7	06.1	3 43	1 43
Arkansas	2 18	12	08	09	03.4	3 18	1 54
Tennessee	1 73	08.8	06.6	04.6	03.9	2 49	1 15
West Virginia	2 19	08.7	05.7	05.2	05.3	2 14	81
Kentucky	2 50	09.8	05.7	05.8	03.6	2 78	1 14
Ohio	3 02	06.8	03.9	06	03.5	2 35	75
Michigan	2 88	06.1	03.9	05.9	04.3	2 68	94
Indiana	2 61	07.2	04.4	04.9	02.7	2 30	82
Illinois	2 97	07.5	04.1	04.6	03	2 18	78
Wisconsin	3 08	06.6	04.1	05.2	03.3	2 56	81
Minnesota	3 33	07.6	04.7	07.7	04	3 12	1 00
Iowa	2 80	06.5	03.9	04.7	02.8	2 00	68
Missouri	2 51	06.1	04.8	04.9	04	2 20	81
Kansas	2 49	06.6	04.1	04.2	03	2 05	69
Nebraska	3 33	05.8	03.4	04.1	02.6	2 35	72
California	1 94	05.8	05.1	.....	.....	2 40	94
Oregon	2 14	06.4	04.4	.....	.....	2 56	90
Nevada	.....	.....	.....	.....	.....	.....	.....
Colorado	3 66	09.1	06.7	06	08	4 00	1 65
Utah	3 94	11.7	10.4	11.2	06.1	4 87	1 45
Washington	2 75	08.2	06.6	.....	.....	2 23	1 25
Dakota	2 81	08.2	03.5	06	04.4	1 45	62
New Mexico	.....	.....	.....	.....	05	6 75	4 50
Montana	4 93	07.5	06	.....	.....	4·00	1 20

In comparison with these prices those of former periods are somewhat higher. In the grain States the decline is quite uniform with that of other labor. In those States where the area in cereals is small the averages are less uniform, and perhaps less reliable, from the smaller number of returns and the greater difficulty in fixing precisely county averages.

In the West, the cost of harvesting and stacking wheat varies little in most of the States from $3 per acre, the highest being in Nebraska and Minnesota, where wheat-growing may be said to be a specialty, and where the area is practically all spring-wheat, and the period of harvesting short and competition for harvest-labor strong. Wisconsin, also a spring-wheat State, stands next in order.

The price per acre for cutting and curing hay is proportionately lower in most of the States. In the States in which machines are not in general use, as in the South, and even in New England, it is far more diffi-

cult to give the local averages, as the work is rarely contracted for at a given price per acre, but is usually done by the farmer at a cost which he may be unable to state definitely.

Table showing the average prices per acre of harvesting and stacking wheat and hay, and per bushel of husking and cribbing and of shelling corn.

States and Territories.	1869.					1866.			
	Price per acre of harvesting and stacking wheat, including all the labor of men and horses.	Price per bushel of husking and cribbing corn.	Price per bushel of shelling corn.	Price per acre of cutting, curing, and stacking hay.	Price per acre of cutting hay only.	Price per acre of harvesting and stacking wheat, including all the labor of men and horses.	Price per acre of cutting, curing, and stacking hay.	Price per acre of cutting hay only.
Maine		$0 05	$0 03	$3 35	$1 22	$4 37	$3 54	$1 16
New Hampshire		06.2	04.3	4 00	1 29	5 75	3 77	1 33
Vermont		09.6	04	2 25	87	4 33	3 48	1 19
Massachusetts				5 81	2 04	4 72	5 19	1 75
Rhode Island		10.2		6 12	1 48	6 00	6 12	1 71
Connecticut				5 50	1 50	3 70	4 75	1 81
New York	$3 70	08.6	04.1	3 13	1 01	3 88	3 22	1 11
New Jersey	3 69	06.2	03.3	3 66	1 28	4 36	4 04	1 52
Pennsylvania	3 96	07.5	03.5	4 03	1 20	4 36	4 10	1 38
Delaware		04	05	5 00	4 00	3 25	3 87	1 50
Maryland	3 04	11.4	04.6	2 97	1 13	4 21	4 83	1 57
Virginia	2 15	07.3	05	2 28	1 09	2 07	1 98	1 05
North Carolina	1 71	05.1	03.1	2 46	1 16	1 84	2 67	1 59
South Carolina	1 50	03.5	04			1 56	3 37	1 50
Georgia	1 72	07 1	05.9	5 50	2 55	2 41	2 82	1 81
Florida								
Alabama	1 43	06.3	05.9	4 33	2 09	2 17	3 66	1 75
Mississippi		05.6	06			2 66	3 31	1 50
Louisiana								
Texas	3 04	07.1	07.2	4 12	1 77	2 65	4 06	1 70
Arkansas	1 70	08	03	2 75	1 70	3 00	4 37	1 96
Tennessee	2 10	05	04.5	3 10	1 51	2 36	3 49	1 86
West Virginia	2 58	06.3	03.8	2 46	1 05	2 75	2 74	1 07
Kentucky	2 53	06.6	04.7	2 61	1 32	3 03	3 51	1 60
Ohio	3 68	06.3	04.1	3 23	94	3 18	3 10	1 00
Michigan	3 15	05.2	04	3 60	1 10	3 41	3 14	1 09
Indiana	3 03	06.5	04	2 46	94	3 33	3 09	1 07
Illinois	3 46	06	03	2 86	91	3 32	2 69	90
Wisconsin	3 16	06.8	04.8	2 91	94	3 28	2 73	1 05
Minnesota	3 66	08.7	05.4	3 33	1 10	3 33	3 34	1 26
Iowa	3 18	06.2	03.7	2 55	84	2 95	2 58	81
Missouri	3 74	08.3	04.8	2 63	93	3 59	3 25	1 12
Kansas	3 08	07.1	03.4	3 20	92	3 73	3 90	1 03
Nebraska	4 05	06.9	03.6	3 02	1 02	4 28	3 53	98
California	2 91	09	09.5	3 29	1 50	2 76	3 00	1 25
Oregon						3 75	3 00	94
Nevada							8 00	3 00
Colorado						9 56	7 79	3 85
Utah						9 32	8 91	3 37
Washington						3 00	5 50	2 00
Dakota						2 50	4 00	1 50
New Mexico						6 50		
Montana								

USAGES IN SHARE-FARMING.

The following is a brief abstract from the notes of our correspondents in regard to the usages prevalent in different States on the subject of working land on shares:

In the New England States the element of taxation is of special importance, and landlords, as far as possible, secure this as one of the points in the contract. The tenant in most cases pays half the taxes, seed, and repairs, and receives half the crops. In some cases he furnishes half the working-stock. In other cases he is entitled to half the growth of young stock, which is sometimes commuted in cash, as when

he is allowed $20 per cow. Different usages prevail among the dairy districts, the owner in some cases furnishing the cows as well as the land. In some neighborhoods the land is rented for cash at the rate of 6 per cent. ad valorem. On hay-farms in New Hampshire the owner of the land often receives two-thirds of the crop, on account of the smaller amount of labor required by grass-crops. In some parts of Connecticut the tenant receives the value of his share of the crop in money, but generally he is left to market his own produce.

In the Middle States the same usages prevail in large sections. The tendency to share equally in the proceeds and expenses of agriculture is more generally coupled with the requirement to furnish, in whole or part, the working-stock, tools, seed, and sometimes the fertilizers used. In some cases distinction is made between plowed crops and hay and fruit; the landlord gets one third of the former and half the latter. Tenants are generally allowed to keep their own cattle and sheep, feeding them from their own share of the crops. When the tenant is unable to stock the farm or to furnish implements, he gets but a third of the produce in some counties. The stipulation in regard to taxes is seldom noted in this section. On the fruit-farms of Delaware fruit is sometimes reserved entirely for the landlord. In this State express stipulations sometimes require the landlord to furnish lime or other fertilizers, which, however, the tenant must apply to the land.

In passing down the Atlantic coast, a tendency is observable to arrange the share problem into three distinct elements, allowing a third of the product as the rental of the bare land, a third to pay for the use of stock, tools, fertilizers, &c., and the remaining third to compensate the labor of production. The party furnishing all the machinery, stock, &c., thus enjoys two-thirds of the proceeds. Yet this usage is subject to local variation. In dividing the corn-crop, for instance, the tenant gets half the grain and only a third of the fodder. A correspondent in Maryland objects to the whole share-system, as deteriorating the land, as the landlords are often compelled to employ incompetent tenant-farmers. In some places in Virginia the bare land is first allowed one-fourth of the proceeds as rent, and the remainder is divided between the landlord and tenant in the proportion in which they have each contributed to stock and furnish the farm. Some landlords demand from one-third to two-fifths of the grain-crops and one-half the hay, even though the tenant may have stocked the farm. In other cases the landlord exacts half the profits of cattle. Different classes of land also receive different amounts of rent. For instance, in North Carolina, valley-land rents for one-half, while hill-sides bring only a third of the crop. Again, a distinction is made in regard to different crops; land in corn yields a third of the produce to the landlord, while in cotton he obtains but one-fourth. Where the landlord furnishes the whole or part of the stock, tools, &c., his share is proportionally enlarged. In some parts of South Carolina cotton-lands are rented for a specific amount of cotton, varying from 60 to 150 pounds per acre. In renting on shares to freedmen, sometimes the landlord furnishes rations for the tenant himself and one mule, as well as stock and tools, in which case he is entitled to two-thirds of the crop; without the rations, he gets but half. In the rice districts of Georgia land is sometimes rented for 7 pounds of rice per acre.

Passing to the Gulf States we find share-farming comparatively little practiced in Florida, but where it is recognized, it is generally on terms very similar to what are stated for the Carolinas and Georgia. The same distinction between corn and cotton, with occasional leases, payable in specific amounts of cotton per acre—from 80 to 100 pounds.

In renting to freedmen the idea is to make him assume, as far as possible, the obligation of providing his own rations. In Alabama, some counties discourage the share-system, and seek to bring agriculture, as far as possible, to the wages standard, but this is not yet found practicable. The tenant-freedman is favored with a larger share of the proceeds and a more lenient treatment than the tenant-farmers of the North. Yet he often falls in debt to his landlord and abandons his contract. Often both parties are more or less to blame in such cases. The blacksmith's account is frequently a part of the settlement, and taken into consideration. Generally, the freedman furnishing only labor is allowed from two-fifths to half the proceeds of the crop. Other tenants, able to furnish stock and tools, obtain leases in which they are taxed but a third of the grain-crops and a fourth of the cotton. In some counties of Mississippi the share-system is increasing. The usual terms of lease are about the same as in the cotton States generally. In some cases the rental is for 40 to 100 pounds of lint-cotton per acre. Freedmen being destitute of stock and tools, as a general thing, these are provided as well as rations in some cases in which the tenant gets but a third of the crops. A distinction is made sometimes between sharers and renters. The former receive a certain portion of the crop; the latter pay a specific rent per acre in cotton or corn. There is in many counties a growing dissatisfaction with the share-system, and hence there is a tendency to treat tenants on the basis of renters rather than sharers. In Louisiana, the public mind is becoming unfavorable to the share-system, and on the sugar-estates it is being abandoned. It is the policy to change it to the rent-system as far as possible. The same difficulties are experienced here as in the other cotton States in the inability of freedmen to stock and furnish their farms. In rice-culture the owner furnishes the water in flumes and receives a third of the crop; if he furnishes the seed, &c., he receives one-half. In many instances the land is rented for $2 to $10 per acre, but the share-system is still made an unwelcome necessity by the poverty both of planters and freedmen.

In Texas the same general principles are noticeable. A tenant furnishing his stock, implements, &c., pays one-third of his corn and one-fourth of his cotton crop, but if the landlord furnish those necessaries he is entitled to half the produce. The share-system is universal in many counties, but the popular feeling is against it. Efforts are made to change it for a specific rent, or to supersede it by hired labor.

In the cotton counties of Arkansas and Tennessee, the same rule prevails as in other portions of the cotton States. Land without stock or implements is rented for a third of the grain and a fourth of the cotton crop; but the quality of the land sometimes varies this rule; rich river-bottoms return one-half the produce for the land alone. If the owner furnish stock, tools, and seed, he gets from half to two-thirds of the crops. The effort to supersede the share-system by substituting hired labor is resisted by the inveterate prejudices of the freedmen, who desire to be master of their own time, and hence prefer the share-contract system, which leaves them at their own disposal. In a few cases land is rented for a specific price per acre either in money or produce. In the sections of the inland Southern States outside of the cotton region, bare land rents at one-third to one-half its produce according to its location and quality, but if the landlord furnishes and stocks the farm, his portion is from one-half to two-thirds of the crop. In the tobacco counties of Kentucky, the landlord frequently claims half the crop as a consideration for the use of land, and in some localities he is entitled to half the wheat-crop.

North of the Ohio River the proceeds of cultivation are divided with reference to the three elements, land, stock, &c., and labor, but not always in equal proportions. The land draws from a third to two-fifths; in some cases hay or other crops, requiring a smaller amount of labor, or where already seeded, pay a rent of one-half. Where the landlord stocks the farm and furnishes seed and tools, his portion varies from one-half to two-thirds of the crop. In some older counties in Ohio and Indiana land rents at $3 to $10 per acre. The cash-system is also becoming common in parts of Illinois. Our returns from this region seldom notice the matter of repairs or taxes. When the corn is divided in the field, the landlord often gets half, but if in the granary, after shelling, he is content with one-third. In some cases, in Wisconsin, it is noted that the landlord and tenant divide the expense of thrashing the grain, but generally it is understood that the landlord receives his portion of the crop ready for market.

The usages of the region just described, in regard to share-farming, are reproduced in the States west of the Mississippi River with only minor and local variations. Occasionally there is a stipulation that the tenant shall keep up the fence-repairs, which seems to betray a New England origin. In older-settled districts lands rent for a specific sum per acre in money.

On the Pacific coast the practice of renting land for money is more common than in the Eastern States; in California the rents vary from $1 to $10 per acre. Where share-farming exists the owner seldom gets over a fourth of the crop for the bare land. The grain is delivered to the landlord in sacks ready for shipment. In Oregon the land generally nets to its owner about a third of its produce.

DIGEST OF CROP-RETURNS.

CORN.

Our returns show an increase in the acreage planted of about 8 per cent. over last year. In New England there is a decline of about 1½ per cent., and on the Pacific coast of about 1 per cent.; but all the great corn-growing regions show an increased breadth planted. The Middle States have increased 2 per cent.; the South Atlantic coast States, 3 per cent.; the Gulf States, 10 per cent.; the Southern inland States, 12 per cent.; the States north of the Ohio River, 7 per cent.; and the States west of the Mississippi River, 14 per cent.

The condition of the crop is about 96 per cent. of an average. New England is about 10 per cent. below average. The planting season was late and not very favorable. Cut-worms caused replanting in many places.

The Middle States are about 7 per cent. below average. Complaints of late frost are frequent in this region, while the late rains of the season in some counties, drought in others, and insect injuries in others, are cited as reasons for the reduced local condition. The general feeling, however, was one of hopefulness of improvement, as the weather had become more favorable.

The South Atlantic States mostly approximated an average condition—Virginia, 95, showing the minimum. The whole section was but

3 per cent. below average, Maryland and South Carolina being 99. The condition of the crop was somewhat backward, but improving. Drought is stated in a few localities. Cut-worms and chinches were also troublesome in isolated places.

All the Gulf States were full average, or above, except Florida, 91, and Alabama, 98. Mississippi, 112, presents the maximum condition of the whole country. In Florida storms in some counties and drought in others injured the crop. Drill-worms are noted in Madison. Drought is reported in several counties in Alabama. In Clarke grasshoppers were injurious on swamp-lands. The general condition was but little below average, good culture generally compensating the damages of drought. A general improvement of cultivation is noted in Mississippi. Louisiana reports an unusually fine growing season. Texas, in spite of local drought and a few cases of insect injuries, is full average.

The inland Southern States show a very uniform fine condition, owing to favorable conditions of growth. In some counties the rain had been too copious to admit of thorough culture, amounting in Owsley, Kentucky, to destructive floods. Arkansas, Tennessee, and Kentucky were 9 per cent., and West Virginia 5 per cent. above average.

North of the Ohio River the crop was 8 per cent. below average, ranging from 95 in Ohio to 82 in Wisconsin. Late frosts in some of the northern counties greatly injured the young plants, while the cold, late spring retarded planting. In some counties excess of rain had prevented cultivation, and left the fields in a grassy condition.

West of the Mississippi River the crop is about 6 per cent. below average on the whole; Missouri is 3 per cent. above, the other States ranging down to 84 in Nebraska. The tone of remark in Minnesota is somewhat gloomy; the cold, backward spring and late frosts and hail-storms being matters of complaint. In Iowa and Missouri the prospect is more cheerful; but there are frequent complaints of excessive rains preventing cultivation, and of chinches and grasshoppers, which compelled extensive replanting. The latter class of complaints were also rife in Kansas and Nebraska, but the replanted crops were generally promising.

The crop was somewhat depressed in condition on the Pacific coast, but there was considerable improvement after late rains.

Our few reports from the Territories do not foreshadow a very satisfactory crop.

MAINE.—*Penobscot:* Cool, but crops look well; some frost in lowlands. *Androscoggin:* Small, but looks well. *Piscataquis:* Season backward. *Cumberland:* Short and backward. *York:* Up to time and of good color.

NEW HAMPSHIRE.—*Hillsborough:* Backward, but looks well. *Rockingham:* Sod-corn badly eaten by the grub-worm.

VERMONT.—*Franklin:* Damaged by cut-worms. *Rutland:* Late, but promising. *Windsor:* Injured some by worms. *Caledonia:* Increased acreage; this crop had been largely abandoned but is receiving more attention. *Addison:* Spring unusually favorable for seeding; condition fair.

MASSACHUSETTS.—*Plymouth:* Looks well.

CONNECTICUT.—*New London:* Late, and injured by cut-worms.

NEW YORK.—*Oneida:* Injured by frost. *Steuben:* Backward. *Madison:* In low places injured by frost. *Columbia:* Backward and ordinary. *Chenango:* Injured by frost, but repaired by subsequent warm rains. *Schoharie:* Fine. *Wayne:* Injured by worms. *Saratoga:* Warm showers redeemed the damage caused by frost; some injury by cut-worms. *Warren:* Rather cool. *Wyoming:* Injured by cut-worms. *Dutchess:* Injured by cut-worms 10 per cent. *Genesee:* Late and injured by cut-worms. *Jefferson:* More promising. *Orange:* Poor start; drought and grubs. *Ontario:* Improved by late rains. *Seneca:* Increased acreage from the winter-killing of clover. *Erie:* Backward but coming up.

NEW JERSEY.—*Atlantic:* Fine growing rains. *Warren:* Looks well in spite of

drought. *Burlington:* Coming forward. *Mercer:* Fine rains have brought up the crops to average.

PENNSYLVANIA.—*Northampton:* Late and small. *Cambria:* Improving during ten days past. *Westmoreland:* Backward, and injured by cut-worms. *Bucks:* Improved by late rains. *Columbia:* Doing well, but two weeks late. *Armstrong:* Largest crop ever planted, and growing fast. *Clinton:* Well set, but backward. *Lancaster:* Irregular, but growing finely. *Butler:* Fine. *Montgomery:* Looks well in spite of drought. *Elk:* Frost-killed to the ground. *Indiana:* Doing finely; cut-worms in a few places. *Lycoming:* Very late, but recent rains and fine weather have done wonders; crop fine on bottoms but short on uplands. *Lawrence:* Backward, but improved by late fine weather. *Washington:* Suffered from cut-worms and wire-worms, but the replanted crop is doing well. *Dauphin:* Injured by wire-worms. *Sullivan:* Cut down by frost.

DELAWARE.—*Sussex:* Favorable weather.

MARYLAND.—*Caroline:* Injured by cut-worms. *Worcester:* Very fair, but backward. *Frederick:* Looks well. *Baltimore:* Fine condition and culture, with copious rains and fine weather. *Dorchester:* Looks well, but a little backward. *Harford:* Looks remarkably well; complaints of cut-worms. *Montgomery:* Cut-worms made stands poor. *Wicomico:* Grain-prospects excellent. *Washington:* Doing finely. *Cecil:* Greatly benefited by late rains.

VIRGINIA.—*Powhatan:* Shortened by drought; no rain from April 26 to June 1. *Spottsylvania:* Enlarged area, and improved stand and growth. *Stafford:* Looks well. *Greenville:* In many cases corn was replanted two or three times, yet the stand is poor; cut-worms. *Halifax:* Late, but much improved; good color where not infested with chinches. *King George:* Promising. *Charles City:* Very promising on the river-bottoms, but poor on uplands. *Washington:* Injured by cold; insects. *Augusta:* Backward; cold and drought. *Highland:* Promising. *Chesterfield:* Large crop and looks well. *Nansemond:* Escaped drought better than other crops. *Prince George:* Small but healthy. *Northampton:* Promising. *Dinwiddie:* Full crop planted. *Mecklenburgh:* Backward.

NORTH CAROLINA.—*Mecklenburgh:* Fine. *Chowan:* Three weeks late. *Pamlico:* Acreage increased; promising. *Beaufort:* Later than last year, but a better stand; condition good. *Anson:* Bottom crops injured by floods; upland crops promising. *Perquimans:* Good prospect. *Franklin:* Backward, but promising. *Wilson:* Backward, but promising. *Caswell:* Average yield; quality very good. *Alamance:* Backward. *Davidson:* Late, but growing well. *Yadkin:* Cut-worms; crop backward and stand not good. *Carteret:* "Adams Early" and "Sugar," from the Department, doing finely; well suited to this region. *Greene:* Splendid. *Hertford:* Greatly shortened by drought. *Haywood:* Bud-worms on bottom crops. *Onslow:* Small for the time of year. *Polk:* Unusually late and small, but well worked and of good color.

SOUTH CAROLINA.—*Colleton:* Had to be replanted, but is now promising. *Beaufort:* Fine weather; crop promising. *Orangeburgh:* Irregular. *Darlington:* Later than last year, but doing well. *Newberry:* Promising. *Richland:* Late; stand poor; drought. *Georgetown:* Doing well. *Spartanburgh:* Small, but good and well cultivated. *Union:* Backward, but coming forward. *Lexington:* Generally good; early plantings partly injured by late frosts. *Edgefield:* Injured in some localities by worms.

GEORGIA.—*Fannin:* Destroyed by cut-worms on lowlands; impossible to get a stand. *Lumpkin:* Small, but promising. *Worth:* No rain in six weeks. *Troup:* Not so tall as usual, but of fine color. *Schley:* Now silking and tasseling. *Pickens:* Smaller than usual, but in better cultivation and condition. *Bullock:* Rather dry. *Dooley:* Promising. *Muscogee:* Drought; corn small and tasseling low. *Richmond:* Above average, especially on sandy soils. *McDuffie:* Will produce 90 per cent. of home consumption if the good season lasts fifteen days longer. *Gwinnett:* Fine condition and well worked in May. *Columbia:* Good tillage and seasonable rain gave the crop a good start. *Hart:* Acreage increased; backward but doing well. *Butts:* Fine. *Terrell:* Small; drought. *Appling:* Backward, but promising. *Banks:* Clean and well worked. *Milton:* Improved by late rains. *Madison:* Late, and poor stands. *Oglethorpe:* Backward. *Pulaski:* Excellent stands of late corn. *Upson:* Doing well; season fine. *Walker:* Late, and not so well worked as usual. *Cobb:* Suffering for rain. *Lincoln:* Great improvement. *Twiggs:* Tasseling lower than ever before known.

FLORIDA.—*Madison:* Doing finely; somewhat injured by drill-worm. *Jackson:* Drought. *Jefferson:* Injured by wind and hail. *Wakulla:* Needs rain, which has just set in. *Hamilton:* Shortened by drought. *Gadsden:* Stalks short but grain good. *Leon:* Poor culture in some places, drought in others. *Putnam:* Fine.

ALABAMA.—*Laurens:* Injured by drought. *Saint Clair:* Promising. *Clarke:* Injured by drought; grasshoppers destructive on stiff swamp-lands. *Macon:* Backward. *Crenshaw:* Drought. *Montgomery:* Well worked, but slightly dwarfed by drought. *Calhoun:* Fine. *DeKalb:* Backward but healthy and well cultivated. *Dallas:* Deteriorated from drought. *Marshall:* Looks well. *Perry:* Higher average than for ten years. *Lawrence:* Late, but growing finely. *Monroe:* Injured by drought. *Pike:*

Fine growing season, overcoming injury of late drought. *Limestone:* Late, but very promising.

MISSISSIPPI.—*Amite:* Increased acreage, better culture, and more abundant promise. *Pike:* Flourishing, but needs rain. *Newton:* Increased acreage and crops flourishing. *Grenada:* Prospect good. *Rankin:* Late showers have saved the crop. *La Fayette:* Very promising. *Washington:* Fine. *Franklin:* Early plantings injured by drought; promising on new bottom-lands. *Kemper:* Healthy and growing; increased acreage. *Lowndes:* Good. *Lincoln:* Better cultivated and more promising than for years. *Lee:* Never more promising. *Madison:* Well worked; another rain will make the best crop since the war. *Hinds:* Prospects flattering. *Jefferson:* Looking well. *Covington:* Kentucky corn doing well. *Smith:* Average.

LOUISIANA.—*Morehouse:* Later than usual, but in fine condition; one more rain will make the crop. *Franklin:* Damaged by drought. *East Feliciana:* Suffering for rain in some places. *Tensas:* Doing well. *Washington:* Unusually fine. *Madison:* Increased acreage; condition better than last year; fine rains. *Richland:* Doing well; fine rains. *Cameron:* Too dry. *Jackson:* Prospect of the largest crop for years. *Caldwell:* Old corn not so good as formerly.

TEXAS.—*Anderson:* Unusually good condition, in spite of drought. *Hamilton:* Acreage increased; crop late, but improving. *Cherokee:* The Pennsylvania white corn retains its superiority, and is exceptionally valuable; it is now in the roasting-ear state, and we are about out of corn. *Dallas:* Another rain will secure a bountiful crop. *Washington:* Crop heavy; much old corn on hand. *Upshur:* Average condition better than last year. *Henderson:* Very fine, but needs rain. *Burleson:* In roasting-ear, but promising a fine yield. *Coryell:* One more rain will make the crop; average promise 10 per cent. greater than ever before; grain full and large. *Collin:* Never more promising; only one more rain needed. *Gonzales:* Ruined beyond redemption by drought on some farms. *Kendall:* Prospect of an immense yield. *Rusk:* Looks well, but on high lands needs rain. *Williamson:* Fit for the table; crop full average, and better than last year. *Houston:* Injured by chinches in some parts, but the general prospect is better than for many years. *Titus:* Poor stand, through late, cold spring, but good cultivation makes it look well. *Somerville:* Average and condition 25 per cent. in advance of last year. *Grayson:* Drought. *Navarro:* Materially injured, especially late plantings. *Marion:* Cut off by drought. *Lampasas:* Badly needs rain. *Austin:* Disastrous drought. *Blanco:* Drought cutting down the crop. *Bosque:* Looks fine, but suffering for rain. *Cooke:* Suffering for rain. *Fayette:* Suffering for rain. *Gillespie:* Needs rain. *Hunt:* Drought. *Waller:* Injured by drought. *Smith:* Injured by drought. *Matagorda:* Suffering forrain.

ARKANSAS.—*Garland:* Two rains more, and we will have the heaviest crop ever raised here. *Prairie:* Looks well, but needs rain. *Baxter:* Looks exceedingly well. *Bradley:* Doing well. *Dorsey:* Looks lovely. *Franklin:* Very backward. *Saint Francis:* Damaged by drought; early sowings will be very short. *Washington:* Backward. *Crawford:* Badly needs rain. *Columbia:* Late, but well worked. *Fulton:* Growing fast. *Izard:* Fine growing rains. *Pope:* Promising. *Marion:* Very flattering.

TENNESSEE.—*Carter:* Backward through drought, but looks well now. *Greene:* Backward. *Monroe:* Unusually small, through drought. *Hawkins:* Growing finely, and promising an average yield. *Coffee:* Never more promising. *Houston:* Extraordinary. *Johnson:* Late rains have been very improving. *Sequatchie:* Fine. *Wilson:* Very promising. *Gibson:* Fine. *Jackson:* Looks well; too rainy to work it fully. *Loudon:* Fine. *Trousdale:* Never better. *Williamson:* Looks well, though poorly cultivated. *Dickson:* Season propitious. *Hancock:* Never better.

WEST VIRGINIA.—*Raleigh:* Promising. *Tucker:* Looks well. *Braxton:* Increased acreage, and average condition. *Brooke:* Has been well tended; fields unusually free from weeds; crop promising. *Cabell:* Larger breadth planted; looks well. *Marion:* Corn growing fast. *Pocahontas:* Backward on account of late spring. *Wood:* Waist high, and growing finely on bottom-lands. *Pendleton:* Very promising. *Mercer:* Not equal to last year, but improving. *Monroe:* Looks well, although too wet in June. *Preston:* Doing well, and promises a bountiful yield. *Harrison:* Promising. *Mason:* At this season never looked better. The growth of the last few weeks has been wonderful.

KENTUCKY.—*Mercer:* Growing finely. *Shelby:* Low, but of good color and growing finely. *Adair:* Looks well; better grown than usual, but very much in the weeds. *Lincoln:* Not forward, but a good stand and growing finely. *Russell:* Prospect very fine, acreage 25 per cent. more than last year. *Pendleton:* Promising; season fine. *Metcalfe:* In the weeds. *Cumberland:* Looks well, but is being damaged by continued rain. *Owsley:* Looked well until the 26th of June; has since been washed by heavy, flooding rains.

OHIO.—*Trumbull:* Not doing well, on account of cold nights. *Williams:* Doing very well. *Morrow:* Increased acreage; promises a heavy crop. *Perry:* Weather favorable; growing rapidly. *Erie:* Large breadth; good stand; growing rapidly, but late. *Coshocton:* Good. *Jackson:* Promises the largest crop ever raised here. *Mercer:*

Planted late; recent and continued rains have injured it very much. *Marion:* In some places almost drowned and very weedy. *Harrison:* Looks well. *Hancock:* Badly injured by wet weather. *Geauga:* Mostly planted in June, but doing well. *Fairfield:* A wet June has prevented cultivation, and promoted weeds. *Delaware:* Increased acreage; good stand, good color, large growth, and a good prospect for a large crop. *Van Wert:* Materially damaged by rain; a large area not planted on account of rain. *Henry:* Stands well on river-bottoms; on flat land weak and yellow. *Athens:* Late, but of good color; very clean and promising.

MICHIGAN.—*Branch:* Stands good, but suffering from too much rain on timber-lands. *Hillsdale:* Rather too wet for corn. *Van Buren:* Cool nights have retarded the growth of corn; many fields look yellow, but in the main is doing well. *Tuscola:* Later than usual, but doing finely now. *Lake:* Damaged by frost in June. *Livingston:* Never better. *Shiawassee:* Late, but good condition. *Oakland:* The leading crop, both in acreage and condition.

INDIANA.—*Jennings:* Very fine. *Rush:* Drilled in this county; too wet to cultivate it; weeds have taken possession, which will probably set many against drilled corn. *Elkhart:* Late, but good. *Franklin:* Growing finely; more foul than usual, but prospect of large crop. *Madison:* Looks well on high land; a great deal of that planted has been drowned out. *Perry:* Fine prospect. *Decatur:* Doing well, but too wet to properly cultivate it. *Warren:* Too much rain; weeds have the advantage. *Dubois:* Condition good; increased acreage. *Shelby:* Injured by heavy rain. *Whitley:* Suffering for cultivation; too much rain. *Washington:* Looks splendid on upland; bottom-lands not so well; too wet. *Pike:* Small, but looking well. *Noble:* Planted late; weather has not been favorable, but corn is now doing well. *Martin:* Foul from continued rains, preventing cultivation. *Jasper:* Weather unfavorable; too cold and wet. *Hendricks:* On undrained land suffering from continued rain. *Crawford:* In healthy condition and growing rapidly. *Cass:* Stand good, and coming on finely, but late. *Scott:* Damaged by floods on bottom-lands. *Tippecanoe:* Backward on account of excessive rains, but now fully up to an average. *Hamilton:* Too wet. Has not been cultivated properly on that account, and wheat-harvest is now here. *Brown:* In flat lands weedy and of bad color; too wet for cultivation.

ILLINOIS.—*Pike:* Corn small; stand medium; very weedy from wet weather. *Edwards:* Condition poor and late; seed supposed to be imperfect; fully one-third did not come up; constant rain has given the weeds a start. *Stephenson:* Backward for the season. Weather too cool and wet, but the stand is good, and prospect now fair. *Clark:* Planted late; an unfavorable time to cultivate; much of it small and weedy. *Madison:* At least ten days late, and suffering from protracted rains. *Menard:* Suffering from too much rain, and very foul with weeds and fox-tail grass. *Vermillion:* Growing luxuriantly, but too wet for cultivation; grass will likely shorten the crop. *De Kalb:* Hardly an average, but promises well; an excellent stand. *Jasper:* Very foul; great trouble from wet weather. *White:* Not promising; hundreds of acres drowned, and equally as much failed to be planted. *Saint Clair:* On low and undrained land it is beyond saving, on account of wet weather; looks well on high land. *Macon:* Growing very fast, but wet and weedy. *Jersey:* Doing very well, and will make the largest crop raised in this county for a number of years. *Iroquois:* Though not forward, is a good, even stand, and has been well cultivated. The land was never so well pulverized, and the prospect is promising. *De Witt:* Much of the crop in low land will be an entire failure, and weeds are doing great injury, to some even on high lands. *Boone:* Increased acreage; late and growing slowly. *Livingston:* Increased acreage and average condition. *Mason:* Backward; grassy in low ground. *Montgomery:* The prospect was never better. *Massac:* Two weeks later than usual, and the season unfavorable. *Piatt:* Wet weather is against the corn-crop; it is getting quite foul.

WISCONSIN.—*Waupaca:* A poor season for corn; not yet three inches high; cold and wet. *Washington:* Cold weather caused late planting, and grub-worms the replanting of about one-fourth of the crop. *Trempealeau:* Not promising. *Sauk:* Very backward. *Juneau:* Backward and puny. *Vernon:* Greatly retarded by the lateness of the season. *Columbia:* Too wet to cultivate. *Calumet:* Behind its season. *Walworth:* Backward; corn never smaller on July 1. *Green:* Never better. *Door:* Injured by frost on the 11th and 12th of June. *Saint Croix:* Not enough usually raised for use; very unpromising this year. *Crawford:* Doing well, and farmers busy cultivating it.

MINNESOTA.—*Waseca:* One-fourth more planted than usual, owing to the low price of wheat. *Goodhue:* Unfavorable for corn; season wet and cold. *Wright:* Very backward. *Steele:* Backward and unpromising, but has been well tended. *Isanti:* The extreme cold spring has retarded its growth. *Winona:* Stand generally good, but condition below average. Here corn is usually made in July and August, and should they be favorable, will expect an average crop. *Mower:* Will not exceed a half crop in this county. *Sherburne:* Small and backward, but of good color. *Faribault:* Continued wet weather has prevented proper cultivation. *Todd:* Badly hurt by hail-storm and cold weather. *Cottonwood:* Not good; spring too cold. *Chippewa:* Poor, on

account of cool weather. *Sibley:* An increase in corn, on account of destruction of other grains by grasshoppers, but it is late.

IOWA.—*Crawford:* Doing finely, but much of it late planted and short. *Franklin:* Ground too wet to properly cultivate. *Lucas:* Very wet; cultivated little, but growing well. *Greene:* Excess of rain and want of cultivation. *Cass:* In some places the stand is poor, owing to bad seed and cold weather, but the late warm rains are bringing it forward rapidly. *Story:* Rains and overflow have injured the corn-crop. *Black Hawk:* Foul and very backward; acreage very large. *Lee:* In the weeds, and harvest nearly at hand. A week or ten days of favorable weather will make a great improvement. *Poweshiek:* Not promising; uneven stand, and full of weeds. *Marion:* Greatly in need of cultivation, which it cannot receive until the ground dries. *Mahaska:* In a critical condition from rain; cannot be cultivated. *Howard:* Not very promising, except on high and dry situations. *Harrison:* Acreage not so great as last year; average condition. *Hardin:* Foul; suffering from an excess of rain and want of cultivation. *Floyd:* Not quite usual size, but, where well worked, of good color; some too wet to cultivate, consequently weedy. *Fayette:* Small, but a fair stand. *Decatur:* Season wet and corn weedy. *Clinton:* Somewhat backward, but generally clean and in growing condition. *Allamakee:* Backward. *Tama:* The most discouraging prospect ever known in the county; very wet, and weeds and grass, in many fields, outgrowing the corn. *Jones:* Weather not favorable to cultivate, and weeds growing rapidly. *Cerro Gordo:* Getting quite weedy. *Madison:* Condition below an average; much had to be replanted and is very late; rain has prevented the necessary cultivation. *Buena Vista:* Getting weedy, and, on account of very wet weather, not promising. *Cherokee:* Rather too wet for corn. *Hancock:* A good stand, but does not grow; too wet. *Lyons:* Too wet to cultivate properly. *Monona:* Late, compared with last year; suffered from heavy rains. *Webster:* Very wet for past three weeks; nothing done, in the way of working corn, for ten days. *Grundy:* Cultivation has ceased on account of rain; prospect discouraging. *Shelby:* About 20 per cent. of the seed planted failed to germinate, and fields had to be replanted; the last planting is rapidly gaining on the first.

MISSOURI.—*Crawford:* Wettest season ever known here; corn badly injured. *Greene:* Crop backward, but clean and in good order. *Gasconade:* Injured by chinches, especially on low lands. *Chariton:* Acreage increased by plowing up the wheat area; well cultivated; fine growing season. *Franklin:* Good stand and growing fast. *Jefferson:* Flooding rains. *Cass:* Two-thirds of the crop twice replanted; a good season will still bring a fair crop. *De Kalb:* Grasshoppers badly injured a very promising crop; they did not touch corn on the north side of timber or on a north slope; they came from the south and lighted on a south slope. *Carter:* Very promising. *Harrison:* A little too much rain. *Howard:* Crop very promising. *Daviess:* Damaged by grasshoppers. *Johnson:* Replanted for winter fodder; crops swept by grasshoppers. *Lincoln:* Late, but promising. *Maries:* Late, but good. *Vernon:* Hundreds of acres of grasshoppered corn being replanted; new crop in fine condition and growing fast. *Stone:* Late, but looking well. *Saint Francis:* Heavy, washing rains made the crop late. *Perry:* Never better; plenty of rain. *Jasper:* Late, but very promising. *Cole:* Splendid. *Clay:* Swept by grasshoppers. *Carroll:* Splendid crop, well advanced, of clean culture and vigorous growth. *Shelby:* Fine crop; injured by late heavy rains, preventing its thorough cultivation. *Grundy:* Looks well on uplands, but injured by heavy rains on the bottoms. *Newton:* Enlarged acreage; looks fine. *Knox:* Injured by flooding rains. *Benton:* Season favorable. *Schuyler:* Season backward and cold; crops late.

KANSAS.—*Smith:* Looking very well. *Doniphan:* Corn replanted, in some cases, four times; some prospect of a good crop. *Neosho:* Has come on finely since the grasshoppers left; fine growing weather. *Franklin:* Large acreage sown since the grasshoppers left; a few of the latter, mostly having the red parasite attached, are injuring corn. *Washington:* Prospect for a large yield. *Wyandotte:* Largely replanted, and subsequently injured by heavy rains and grasshoppers. *Woodson:* Great increase in acreage; Liberty Township has 20,000 acres in corn, and the poorest is above average in condition; replanted corn small, but looks well. *Sumner:* Prospect splendid. *Shawnee:* Backward, but promising. *Nemaha:* Increased acreage due to grasshopper raid. *Labette:* Promises better than for two years back. *Jackson:* Replanted, in some cases, three or four times, on account of grasshopper-ravages; farms on bottom land and in timber belts, suffered most. *Ellis:* Looking well. *Crawford:* Looking well. *Cherokee:* Finest prospect ever known here. *Brown:* Badly injured by grasshoppers. *Anderson:* Increased acreage; condition poor, on account of replanting after the grasshoppers left. *Allen:* Late planted, but encouraging. *Johnson:* Corn planted since June 15 came up quick and looks finely. *Douglas:* Nine-tenths of the crop replanted on account of grasshoppers, but looks well. *Cowley:* Badly in the weeds. *Atchison:* Largely replanted within ten days; may yet make a crop.

NEBRASKA.—*Richardson:* Replanted three times; poor chance; drought. *Webster:* Looks fine. *Madison:* Grasshoppers. *Knox:* Damaged by grasshoppers, but growing up again. *Hall:* Bad stands. *Cedar:* Backward; cool weather. *Sage:* Grasshop-

pers. *Otoe:* Grasshoppers. *Cass:* Grasshoppers; poor chance. *Johnson:* Replanted came up well, and is growing fast. *Clay:* Thin on the ground.

CALIFORNIA.—*Sonoma:* Late heavy rains have made a great improvement in corn, but have somewhat damaged small grain. *Amador:* Benefited by late rains.

OREGON.—*Clackamas:* High prices have induced a large planting.

THE TERRITORIES.—*San Miguel, New Mexico:* Drought. *Santa Fé:* Too dry. *Taos:* Drought. *Choctaw Nation, Indian Territory:* Good in some places, and poor in others. *Yankton, Dakota:* Late. *Hanson, Dakota:* Season late for corn. *Lincoln, Dakota:* Too cold and wet for corn. *Taos, New Mexico:* Very poor; drought.

WHEAT.

The average condition of wheat of both kinds for the entire country is 82. The average condition of winter-wheat for the States in which it predominates, including California, is 74; of spring-wheat, 96. The South Atlantic and Gulf States, which have been comparatively free from insect-pests, and have suffered less than usual from rust, report a high condition. North Carolina, 102; Georgia, 108; Alabama, 106; Mississippi, 113; Texas, 135; Arkansas, 119. Tennessee and Oregon, each 102, are the only other States which report winter-wheat above average. In the North Atlantic and Middle States, the figures are low. Virginia, 83; Maryland, 76; Pennsylvania, 78; New Jersey, 63; and New York, 45—lowest of all. Between the Alleghanies and the Mississippi, West Virginia averages 64; Kentucky, 82; Ohio, 71; Michigan, 79; Indiana, 69; Illinois, 76. Missouri returns 72; Kansas, 91; Iowa, 95. In California, though there is no obvious line of distinction, a part is classed as winter and a part as spring wheat; the former averages 76 and the latter 55.

Among the States producing spring-wheat to any considerable extent, Maine returns a condition of 101; New Hampshire, Wisconsin, and Iowa, 99; Vermont, 100; New York, 91; Pennsylvania, 88; Illinois, 96; Minnesota, 102; Kansas, 85; Nebraska, 71; Oregon, 106. The principal causes which affected the condition over large areas, in the winter and spring, were reported in June. Local causes modifying it since will be sufficiently noted in the extracts from correspondents which follow.

MAINE.—*Androscoggin:* Spring-wheat looks well, winter-wheat not raised. *Cumberland:* Grain looking well.

NEW HAMPSHIRE.—*Hillsborough:* Small grains look well. *Rutland:* Grain-crops late but promising.

VERMONT.—*Grand Isle:* Winter-wheat badly killed.

NEW YORK.—*Schoharie:* Winter-wheat light. *Wyoming:* Winter, killed. *Dutchess:* Nearly a failure. *Jefferson:* More promising. *Orange:* Considerably winter-killed. *Suffolk:* Winter-crops badly injured. *Seneca:* Too far gone to be benefited much by recent rains. *Erie:* Winter-wheat very uneven, except alongside timber. *Steuben:* Winter-grain badly injured. *Queen:* Short.

NEW JERSEY.—*Warren:* Short crop, straw short, and the grain not full. *Burlington:* Heading better than was expected. *Mercer:* Winter-grain greatly improved. *Salem:* Short, through winter-killing.

PENNSYLVANIA.—*Northampton:* Half crop. *Perry:* well headed and filling rapidly. *Cambria:* Improving; harvest will be ten days late. *Lebanon:* A very fine wheat-field; was made so by harrowing and dragging the ground just after plowing. *Cumberland:* Promising. *Bucks:* Discouraging prospect; half crop. *Columbia:* Grain slow in filling. *Lancaster:* Improving with late rains; heads large. *Franklin:* Fine. *Montgomery:* Half crop. *Montour:* Ripening slowly and unevenly. *Tioga:* Half crop. *Washington:* Late ripening. *Sullivan:* Many fields plowed up for buckwheat.

MARYLAND.—*Frederick:* Improving. *Carroll:* Greatly improved within a month; Fultz especially fine throughout the county; large heads and well filled. *Baltimore:* Late-seeded fields below average; earlier in fine condition. *Dorchester:* Not quite so good as last year. *Harford:* Greatly improved. *Montgomery:* Straw short, but heads well filled. *Calvert:* Greatly benefited by late rains; straw short, but grain unusually good. *Washington:* Very great improvement during June. *Howard:* Poor crop.

VIRGINIA.—*Powhatan:* Crop large for the amount of seed sown. *Bland:* Improved

by late rains. *Warwick:* Grain shrunk through rust on blade and stalk. *Spottsylvania:* Grain fine; forty to seventy-five grains in a head. Fultz yields largely, but is short-strawed from drought in May. *Stafford:* Greatly improved during May and June; straw short, but grain plump. *Loudoun:* Great improvement in six weeks; filling well. Clawson wheat from the Department stood the winter well, and promises a heavy yield; several days later than the Fultz. *New Kent:* Grain of better quality than for many years. *Frederick:* Fultz excels all others; makes two bushels to one of Mediterranean or Lancaster. *Orange:* Straw short; grain of first quality. *Henry:* Light, but of good quality. *Henrico:* Straw short, but grain fine. *Craig:* Thin on the ground and short-strawed; heads short, but well filled: grain good; Lancaster and Fultz the best; Touzelle scabbed in the head, and will make only half a crop. *Dinwiddie:* Fine in quantity and quality. *Halifax:* Injured by rust and chinches. *King George:* Remarkably fine season for maturing and harvesting; straw short, but heads fine and full. *Mecklenburgh:* Fine quality. *Nelson:* Thin, but of very superior quality; heads well filled. *Washington:* Third of a crop; Fultz the best seed, Lancaster next. *Wythe:* Full average. *Page:* Shortened, but well filled and in good condition. *Charles City:* Short, but quality and quantity better than last year. *Cumberland:* Full crop of good quality. *Campbell:* Promises a good yield; heads well filled. *Prince William:* Matured well. *Washington:* Drying up; spots on the head. *Matthews:* Some rust. *Westmoreland:* Fine quality and heads full, but straw short; Fultz the best. *Augusta:* Largely winter-killed. *Culpeper:* Straw short, but heads well filled; Clawson, from the Department, a great acquisition; well adapted to the climate. *Fairfax:* Remarkably well filled; Fultz still superior. *Highland:* Not over half a crop. *Roanoke:* Injured by cold and drought. *Chesterfield:* Very promising.

North Carolina.—*Robeson:* Shortened by frost. *Chowan:* Good. *Mitchell:* Badly injured by snow and freeze of April 17; thin and short; Clawson wheat, from the Department, the finest ever grown here; will ripen July 10; many heads 7 inches long. *Madison:* Clawson, from the Department, stands next to Tappahannock, which is our earliest variety; stood winter well. *Perquimans:* Unusual promise. *Alamance:* Unusually fine. *Yadkin:* Full average, and of good quality. *Duplin:* Increased growth. This township harvested three-fourths of the aggregate of the entire county in the census of 1870. *Greene:* Injured by frost; half crop. *Hertford:* Best crop for years. *Haywood:* Injured considerably on bottoms by heavy rains: Fultz does well on all soils. *Montgomery:* Fair. *Stanley:* Damaged somewhat by wet in the shock; crop generally good; Fultz very fine. *Caldwell:* Somewhat rusted as well as injured in the shock by rains. *Buncombe:* Injured by April freezes, as also by rust. *Clay:* Fultz the best variety furnished by the Department.

South Carolina.—*Greenville:* Small in area, straw, and grain. *Richland:* Small; grain excellent, especially wheat. *Spartanburgh:* Small area; looks well. *York:* Light; rust. *Lexington:* Average in spite of frost.

Georgia.—*Forsyth:* Grain good, but crop short; acreage increased. *Towns:* Injured by late frost, but the increased acreage will make up the deficiency. *Lumpkin:* Fully 50 per cent. better than last year. *Troup:* Good yield and grain. *Gilmer:* Well matured by the dry weather. *Gordon:* Quality good on uplands. *McDuffie:* Best crop in twenty years. *Gwinnett:* Fair. *Columbia:* Considerable rust. *Catoosa:* Rust injured a very fine promise. *Butts:* Good. *Hancock:* Good yield. *Upson:* Short. *Telfair:* Rusted. *Walton:* Improved quality. *Clayton:* Mostly good; one man averaged 20 bushels per acre, one acre yielding 42.

Alabama.—*Crenshaw:* What little wheat was sown matured well. *Calhoun:* Good yield; grain sound. *De Kalb:* Straw in excess; grain poor. *Franklin:* Double any crop since the war. *Marshall:* Yield good; flour good. *Colbert:* Largest crop ever made here. *Lawrence:* Average, 7 bushels per acre. *Lauderdale:* Good quality; Fultz and other wheats from Department doing finely.

Mississippi.—*Greene:* Efforts to grow wheat have all failed; rust invariably takes it in bloom. *Newton:* Crop unsurpassed. *Grenada:* Injured by rust and smut. *Neshoba:* Crop fine, but injured by rust in some places. *Jasper:* A few acres of winter-wheat, but destroyed by rust after beginning to ripen. *De Soto:* Unusually fine. *Winston:* Rust; only early varieties escape. *Franklin:* Entire failure. *Kemper:* Georgia wheat fine; Department wheats all rusted. *Lowndes:* Good. *Lee:* Average 20 or 30 bushels per acre; crop sufficient for home demand. *Yalabusha:* Fultz from the Department better than any other; heads a third larger; tillered more extensively; 60 stalks of wheat from one grain, but rusted after all. *Sunflower:* Acreage in small grain increased.

Louisiana.—*Bienville:* Shortened 15 per cent. by rust. *Jackson:* A total failure through rust.

Texas.—*Dallas:* Yield from 15 to 40 bushels per acre; average about 25; grain large and plump; weight 60 to 65 pounds per bushel. *Henderson:* Fine wheat is raised. *Burleson:* Average 25 bushels per acre. *Coryell:* Finest crop ever raised here; from 20 to 40 bushels per acre. *Kaufman:* Average of county, 18 bushels per acre; fine condition. *Red River:* Good. *Bowie:* A field of 300 acres is expected to yield 25

bushels per acre. *Williamson:* Crops average 20 to 25 bushels per acre. *Bexar:* Averages 20 bushels per acre of 62 pounds each. *Titus:* Twenty-five per cent. above average. *Somerville:* Average 20 bushels per acre. *Grayson:* Splendid crops; 15 to 45 bushels per acre. *Bosque:* Better than for years; 20 to 30 bushels per acre. *Cooke:* Fair. *Hunt:* Small grain turning out more per acre than for ten years. *Uvalde:* Department wheats not successful. *Hamilton:* Splendid crop.

ARKANSAS.—*Woodruff:* First crop sown since the war; splendid, averaging from 15 to 40 bushels per acre. *Monroe:* Large acreage and fine condition, promising 20 to 25 bushels per acre. *Baxter:* Best crop since the war. *Dallas:* Unusually good. *Independence:* One crop averaged 40 bushels per acre; lack of labor for harvesting; reapers and mowers extensively introduced. *Bradley:* Greatly reduced by rust. *Dorsey:* Immense crop harvested. *Franklin:* Best general crop grown; Tappahannock and Touzelle did well. *Ouachita:* Largest crop ever raised; wheat from northern seed badly rusted. *Hempstead:* Fine. *Washington:* Pastured in winter and spring, but the grain is good and yield above average. *Jefferson:* Good yield. *Sebastian:* Changing base from cotton to wheat; double last year's acreage. *Fulton:* Best crop for years. *Pope:* Better than for many years. *Sevier:* Best crop ever raised here. *Howard:* Five times greater than any crop since the war.

TENNESSEE.—*Lincoln:* Late sown injured by rust. *Fentress:* Some rust. *Smith:* Average yield of fine quality. *Sevier:* Very fine quality. *Knox:* Grain good, but the yield is small; no smut from seed soaked with solution of bluestone. Fultz stood the freezes well, and for three years has produced 50 per cent. more than the Tappahannock. *Carter:* Fultz from the Department is good, but Clawson a failure. Our winter-wheats are generally a fine yield. *Greene:* Good quality, but many crops light. *Monroe:* Some sprouting in the shock; yield average and quality excellent. *Hawkins:* Stand thin and straw short, but the grain beautifully ripened. *Cheatham:* Injured 20 per cent. by rains. *McMinn:* Grain remarkably full and plump; heads short. *Henry:* Largest crop ever grown here. *Obion:* From 20 to 30 bushels per acre. *Trousdale:* Good. *Van Buren:* Injured by freezes in spring. *Bradley:* Grain fine, plump, and heavy; raised 102½ bushels of Golden Straw on two acres. *Dickson:* Season propitious. *Montgomery:* Grain good; acreage a third greater than last year. *Robertson:* Injured in shock by rain. *Hancock:* Average. *Rhea:* Injured in the shock by rain. *Grainger:* Greatly improved.

WEST VIRGINIA.—*Raleigh:* Short, but good and heading splendidly. *Brooke:* Badly winter-killed, but will perhaps make half a crop. *Cabell:* Thin, head small, but promises good quality. *Jackson:* Winter-killed, and in some neighborhoods damaged by spring floods. *Marion:* Improving, but will be poor. *Pocahontas:* Not much over half a crop. *Jefferson:* Not well filled; quality middling; will probably not average over 5½ to 6 bushels to the acre. *Mineral:* The poorest crop for many years. *Wood:* Badly damaged by severe winter. *Putnam:* Not more than half an average; recent wet weather developing rust; some complaint of smut; Clawson thought to be superior to Tappahannock; it has a larger head, resists the midge; promises to be valuable, but late. *Mercer:* Unpromising. *Hancock:* Many fields not worth harvesting; a few up to fair average. *Barbour:* About one-third of a crop. *Monroe:* Injured in April. *Harrison:* Scarcely half a crop. *Mason:* If not injured in the shock by warm rains, will make from one-half to two-thirds of an average.

KENTUCKY.—*Carroll:* Injured by severe winter; later than usual. *Hardin:* But little over half crop. *Warren:* Acreage double; condition better than an average. *Shelby:* Thin on the ground, and low, some fields not high enough to cut; heads fair. *Adair:* Injured by recent rains. *Lincoln:* Thin on the ground, and injured by rust. *Russell:* The best crop for many years; mostly cut. *Pendleton:* About half an average; quality fine; late sown an entire failure. *Metcalfe:* Not more than half a crop—three-fourths at best—owing to severe winter and dry spring. *Livingston:* Nearly ruined by rust. *Graves:* Not an average; thin on the ground, but grain good. *Edmonson:* Harvested, and good, but in danger from rain. *Callaway:* Good. *Cumberland:* A fair crop.

OHIO.—*Trumbull:* Improving. *Morrow:* Improved beyond expectation; will be a good crop. *Erie:* Doing well; no rust. *Sandusky:* Improved very much; weather favorable to its filling. *Coshocton:* Rust has appeared; fears of serious injury; harvest late. *Medina:* Harvest interrupted by heavy rains. *Holmes:* Somewhat injured by late frost. *Harrison:* Promising. *Hancock:* A heavy straw, but ripens slowly. *Geauga:* Very heavy. *Fairfield:* Harvest ten days to two weeks behind the usual season, and wheat threatened with rust. *Delaware:* Weather just right. *Van Wert:* Thin on the ground, and badly struck with rust. *Gallia:* About one-third of an average. *Lucas:* Has a rank growth; is very late, and is threatened with rust. *Henry:* Late; badly down; not filling well; Fultz and Tappahannock stand the best.

MICHIGAN.—*Kalamazoo:* Two-thirds of a crop in this county. *Wexford:* Ruined by frost June 13. *Branch:* Twelve days later than last year; an excess of rain. *Jackson:* That not winter-killed promises a large yield; heads long and well filled. *Hillsdale:*

Has improved. *Tuscola:* In some parts of the county, fully up to an average; in others not so good. *Saint Joseph:* Only half a stand on account of winter-killing; straw of a rank growth; weather quite unfavorable. *Mecosta:* Materially injured by frost June 12; some fields mown for the straw, others plowed under and sown to millet. *Lake:* Damaged by frost in June. *Grand Traverse:* Damaged by frost June 13. *Manistee:* In good condition until June frosts. *Livingston:* Badly winter-killed, but recovering. *Oakland:* Has improved since the late rains, but in danger of rust. *Monroe:* Not promising. *Allegan:* Promising; straw bright and berry plump.

INDIANA.—*Grant:* About a half crop. *Clarke:* Injured by the winter, and by frost in April. *Jennings:* Almost an entire failure. *Spencer:* Good quality, but thin on the ground; many fields are too thin to harvest. *Elkhart:* Badly down. *Franklin:* Greatly improved; half to two-thirds of a crop. *Madison:* On fallow, or dry lands, looks well; that sown among corn, of but little account. *Steuben:* The prospect never better. *Decatur:* Badly winter-killed; this county will perhaps produce seed, and not more. *Orange:* Prospect poor; many fields will not be harvested. *Warren:* Fine on clay soil. *Dubois:* Less than half a crop; grain injured by wet weather. *Shelby:* Improved since last report. *Washington:* Will not produce the amount of seed sown. *Ripley:* What there is is doing well; Clawson White Winter very promising. *Pike:* Damaged by rain. *Noble:* Ripening very unevenly; has been injured by weevil. *Howard:* Being badly damaged by midge. *Hendricks:* Some red weevil, or midge. *Crawford:* Being injured by rust and chinch-bugs. *Clinton:* Midge abounds, and will materially lessen the crop. *Cass:* Two weeks late. *Scott:* Very thin, but well filled. *Kosciusko:* Has come out beyond all expectations, owing to favorable season. *Tippecanoe:* Improved; will be nearly or quite an average. *Brown:* Badly winter-killed.

ILLINOIS.—*Edwards:* Coming out better than was expected. *Stephenson:* Promising. *Clark:* More than an average. *Madison:* Late, weedy, and not well filled. *Vermillion:* Greatly improved, but will not be more than 60 per cent. of a full crop. *Pope:* Thin, but well filled. *Williamson:* Improved 10 per cent. or 15 per cent. since May. Owing to the increased acreage the yield will probably nearly equal that of 1874. *White:* Will not yield one-half the seed sown, owing to the ravages of the Hessian fly. *Saint Clair:* Fully two weeks late. Ground too wet for harvesting except with the cradle. *Randolph:* Fair. But little injury from army-worm. *Macon:* Fall wheat full of chinch-bugs, but not damaged much by them. *Jersey:* Improved very much, and from present appearances will make half a crop. *Livingston:* No winter-wheat; small acreage of spring; condition good. *Mason:* Spring-wheat looks well. *Montgomery:* No. 1, but will be difficult to harvest on account of rain. *Massac:* That not winter-killed has long heads and is well filled. *Monroe:* Grain superior but yield below an average. *Fayette:* Good, but being harvested with difficulty on account of rain.

WISCONSIN.—*Vernon:* Spring-wheat looks well. Injured in some places by chinch-bugs and grub-worms. *Iowa:* Will be about half crop owing to the ravages of chinch-bugs. *Calumet:* Spring-wheat very promising. *Green:* Spring-wheat all destroyed before it was four inches high by chinch-bugs, and was plowed up and sown in buckwheat. *Saint Croix:* Looks unusually well. *Crawford:* The best winter-wheat for years.

MINNESOTA.—*Stearns:* The outlook for spring-wheat was never better. *Sherburne:* Some fields injured by grasshoppers, others not touched. *Cottonwood:* The wheat-crop is the finest raised since the settlement of the county.

IOWA.—*Crawford:* Splendid. *Story:* Season favorable. *Lee:* Winter-wheat a failure; spring looks well. *Poweshiek:* Some complaint of rust. *Mills:* Fears of a failure from rain and rust. *Louisa:* Spring-wheat looks well, but is growing tall and is in danger of falling down. *Howard:* Looks well on dry soil, but in many places suffering from continued rain. *Hardin:* An overgrowth of straw, and inclined to fall down. *Tama:* Injured by wet weather, especially on low lands. *Guthrie:* Winter-wheat a failure; useless to sow it, unless hardier varieties can be found than any yet tried in this county. Spring-wheat rank and beginning to fall. *Buena Vista:* Fears of rust. *Cherokee:* Late, but promises to be heavy.

MISSOURI.—*Crawford:* Wheat largely mixed with chess; not over three-fourths of the crop will be full average. *Ozark:* A little short on account of winter-killing. *Greene:* Crop greatly beyond expectation. *Polk:* Abundant rain keeps the chinch back; wheat out of all danger. *Gasconade:* Lowland-crops injured by chinches. *Chariton:* Largely plowed up to be put in corn; not over a half crop, but good and well saved. *Franklin:* Greatly improved. *Adair:* Total failure. *Carter:* Average. *Howard:* Too much rain. *Daviess:* Badly winter-killed. *Johnson:* Ruined by grasshoppers. *Lincoln:* Only one-fourth of a crop will be made; grain good. *Maries:* What survived winter came out beyond expectation. *Taney:* Will be 25 per cent. larger than ever before; Clawson, from the Department, is splendid. *Stone:* Shortened by fly, rust, and chinch. *Stoddard:* Increased acreage; somewhat winter-killed but promising. *Saint Francis:* Never better. *Perry:* Very good. *Lawrence:* Crop has come out wonderfully; Clawson especially fine; heads run 80 to 100 grains each.

Jasper: Badly injured by chinches. *Cole:* Fine weather has brought the crop to average; heads and berries superior. *Clay:* Destroyed by grasshoppers. *Carroll:* Badly winter-killed; no spring-wheat. *Shelby:* Mostly winter-killed and plowed up for corn; what was left is not good. *Newton:* Too thin and weedy; injured by rust and chinch-bug. *Benton:* Season unfavorable.

KANSAS.—*Smith:* Small grain injured by drought. *Marshall:* Grasshoppers left three-fourths of the small grain uninjured. *Doniphan:* Small grain mostly destroyed by grasshoppers. *Neosho:* What the grasshoppers left is good. *Washington:* Spring-wheat injured by drought in June; fall-wheat good. *Sumner:* Finest crop yet raised. *Shawnee:* Fall-wheat that escaped the grasshoppers is the best for three years; many pieces average 30 bushels per acre; spring-wheat poor. *Reno:* Many pieces of fall-wheat drilled upon deep-plowed ground will average 30 bushels per acre; others will go as low as 10 bushels. *Labette:* Injured 8 per cent. by grasshoppers and 10 per cent. by chinch-bugs. *Ellis:* Winter-wheat, where not cut too green, is plump and well headed; stand good; spring-wheat long and stiff-strawed and long-headed. *Cherokee:* Thin on the ground but promising; heads unusually long and well filled. *Brown:* Badly injured by grasshoppers. *Marion:* Best crop of winter-wheat ever harvested here; White May and Blue Stem the favorite varieties; White Genesee and Gipsy well reported. *Republic:* Injured some by drought. *Montgomery:* Excellent crop and harvested in fine condition; some little damage by rust and chinches. *Chase:* Spring-wheat damaged by June drought. *Douglas:* Nine-tenths taken by grasshoppers. *Cowles:* Good and well saved.

NEBRASKA.—*Webster:* A little injured by drought. *Stanton:* Injured by grasshoppers in places. *Madison:* Grasshoppers. *Knox:* Half destroyed by grasshoppers. *Hall:* Grasshoppers. *Cedar:* Large yield, if it escapes grasshoppers. *Adams:* Above average. *Gage:* Grasshoppers. *Otoe:* Grasshoppers. *Antelope:* One-third destroyed by grasshoppers. *Franklin:* Injured by grasshoppers.

CALIFORNIA.—*Sacramento:* Grain-crops badly injured by freezing weather in April. *Alameda:* Wheat and other grain will not exceed two-thirds of a crop; drought and drying winds since the middle of February; much grain damaged by rain in the shock. *San Joaquin:* Thrashed out only half average; heavy rains caused extensive lodging of the crop. *Contra Costa:* Full average on good, well-tilled land, but short, as a whole, 25 to 33 per cent. *San Bernardino:* Spring frosts unusually disastrous. *Stanislaus:* Injured by rain in the shock.

OREGON.—*Benton:* What little winter-wheat we have looks well; spring-wheat late but promising. *Clackamas:* Favorable weather has benefited spring-grains. *Tillamook:* Small grains mostly went to straw. *Columbia:* Excellent. *Grant:* Season favorable.

THE TERRITORIES.—*Santa Fé, N. Mexico:* Doing well in spite of drought. *Taos, New Mexico:* Very poor. A failure of our crops will terribly affect the whole Territory, as nearly all the counties draw their supplies from this. *Sevier, Utah:* Straw short; unpromising. *Choctaw Nation, Indian Territory:* Increased average and unusually fine yield. A large thrasher has just been introduced. *Yankton, Dakota:* Growth rank. *Lincoln, Dakota:* Doing well. *Boise, Idaho:* Season late.

COTTON.

Our cotton returns are unusually full. The condition of the crop approximates a full average, showing an improvement during June in all the cotton States except Texas, where the prevalence of drought in some localities and some local injuries by cut-worms, cotton-caterpillars, and grasshoppers reduced the promise of the crop 3 per cent. The improvement of condition in the other cotton States is shown by the following figures: North Carolina, 3 per cent.; South Carolina, 2; Georgia, 6; Florida, 7; Alabama, 1; Mississippi, 3; Louisiana, 10; Arkansas, 14; Tennessee, 10. The State averages on the 1st of July were as follows: North Carolina, 95; South Carolina, 99; Georgia, 97; Florida, 101; Alabama, 102; Mississippi, 103; Louisiana, 105; Texas, 93; Arkansas, 104; Tennessee, 109.

A considerable cotton-culture is reported in some counties in Virginia, but to a considerable extent this crop has been superseded by tobacco. The crop in these counties is late, but generally healthy. It stands the drought well.

In North Carolina the crop is late, but is generally in better condition

than at the same time last year. The fine weather of June improved the crop very materially in many counties. Cotton-lice are reported in Chowan, Edgecombe, and Camden. In Edgecombe a new variety of the *aphis* is reported, called the blue or root louse, which is more destructive than the ordinary leaf-louse. Clean culture seems to have been general during the season so far, which, with the good weather of June, has greatly improved the crop prospects.

In South Carolina the condition of the plant is almost a full average of normal growth. Darlington, which produced a seventh of the crop of the State, reports a condition 5 per cent. above average. Barnwell, the next largest cotton county, reports full average and 15 per cent. better than last year. The crop is generally late, having been replanted in many cases on account of late frosts. Some local injuries are reported from violent hail and rain storms.

Seventy-three counties in Georgia, embracing over two-thirds of the crop of the State, show a very general improvement. The crop is here also late, but generally of vigorous growth and clean cultivation. One correspondent complains of a tendency among planters to rather exaggerate the condition of the crops, but the fine June weather justifies the improved estimate of the crop in most cases.

A still more marked improvement is noted in Florida, where a short dry spell was of great benefit in enabling the planters to thoroughly clean their fields. The weed was generally small but well fruited. Some complaints of "sore-shin" come from Gadsden.

Alabama reports a slight improvement upon the very favorable condition of June 1. The weed in many places was somewhat dwarfed by drought, but was generally limbing and forming well. Montgomery and Dallas, the two largest cotton counties of the State, report the crop 10 per cent. above average, while some of the larger counties fall below 95. No insect injuries were reported.

Mississippi reports an advance, which brings her crop considerably above average. The season seems to have been exceptionably good, both for growth and cultivation. Though the planting was delayed by unfavorable weather, the crop had in many counties attained its full growth. The general promise was very greatly in advance of July, 1874, and the cultivation was greatly improved. Many counties report the labor question as far more satisfactory than at any time since the war. In some cases there was a complaint of too rapid weeding and too slow fruitage. Lice were troublesome in some parts of Jasper.

All the parishes of Louisiana reporting show a very satisfactory condition of the crop. In some quarters lately afflicted with drought there is a tendency to excess of rain. No reports of insect injuries. A marked improvement is noted during June.

In Texas the condition is varied. Many counties report the crop as remarkably fine, but local drought and insect ravages have slightly reduced the prospect as compared with the June report. Cut-worms were destructive in Coryell and Bandera. Caterpillars were reported in Limestone, on lowland-cotton, also in Bosque and Matagorda, but in no case were their ravages very serious. Grasshoppers were threatening in Hunt, and the cotton-grass-worm in Hamilton. Unknown insects were troublesome in Collin.

Arkansas exhibits the most marked improvement of the cotton States during June. The conditions of growth, after the late opening of the season, were excellent, and the cultivation good. Some small local injuries from drought, worms, and lice are noted. Tennessee reports show a promising though backward state of the crop.

The following table shows the average condition of the crop on the 1st of June and 1st of July of the current and five preceding years:

States.	1875.		1874.		1873.		1872.		1871.		1870.	
	June.	July.	June.	July.	June.	July.	June.	July.	June.	July.	June.	July.
North Carolina	92	95	89	102	85	91	96	99	90	99	94	98
South Carolina	97	99	81	88	88	82	92	98	92	100	96	98
Georgia	91	97	80	91	94	94	94	104	82	82	101	100
Florida	94	101	90	96	98	99	95	96	103	88	98	98
Alabama	101	102	82	92	93	85	105	107	83	81	102	100
Mississippi	100	103	78	87	92	83	100	112	84	80	95	98
Louisiana	95	105	70	73	94	80	104	101	90	75	101	100
Texas	96	93	98	102	86	78	100	103	93	93	97	98
Arkansas	90	104	75	94	92	96	98	96	83	90	101	100
Tennessee	99	109	90	97	90	96	99	104	90	96	85	98

VIRGINIA.—*Dinwiddie:* Replaced considerably by tobacco; crop small, but growing fast; no blooms yet. *Sussex:* Injured by cold and drought. *Nansemond:* Stands drought well. *Prince George:* Small but healthy.

NORTH CAROLINA.—*Gaston:* No cotton-blooms yet; they frequently come about June 20. *Mecklenburgh:* Ten days later than last year, but in better condition; very little grass; crops well worked; best stand since the war; fertilizers used only to a limited extent. *Chowan:* Very small; looks badly; hindered by lice and cold weather. *Pamlico:* Greatly improved by fine weather; stands good, though crops are small. *Beaufort:* June very cool with too much rain; much cotton hopelessly behind time. *Perquimans:* Backward; stand poor. *Franklin:* Backward, but stand promising. *Wilson:* Stand good, but from seven to ten days late; plants healthy. *Edgecombe:* Spotted; stands damaged by lice; the blue or root louse, which is more destructive than the leaf-louse. *Wake:* Weather very favorable; crops clean, and rapidly recovering from the spring stint. *Camden:* Very backward and lousy. *Duplin:* Badly injured by heavy rains; unusually small. *Columbus:* Some blooms; rains have made the crops grassy. *Greene:* Planting ten days late; plant unusually small, but crops clean; fine growing weather. *Hertford:* Plants small, but looking well. *Pitt:* Ten days late; stand good and clean. *Montgomery:* Stand fair, but two weeks late; we need a late and favorable fall. *New Hanover:* Improving fast. *Stanly:* Weed low; forms its squares close to the ground. *Onslow:* Small for the time of year. *Polk:* Prospect better than at this time last year.

SOUTH CAROLINA.—*Colleton:* Had to be replanted, but is now promising. *Marlborough:* Heavy wind, rain, and hail-storms damaged the crops; they are now better, but need rain; weed not so good as last year; looks sickly, with few forms; blooms ten to fifteen days later than last year. *Beaufort:* Fine season; crops average. *Orangeburgh:* Admirable weather; crops backward but in fine condition. *Barnwell:* Later than last year but 15 per cent. better. *Darlington:* Fully up to last year and in better condition. *Newberry:* Very promising. *Georgetown:* Promises well in spite of late frosts requiring replanting. *York:* Generally good, but two weeks late. *Union:* Healthy and growing. *Lexington:* Growing vigorously; some danger of overgrowth of weed.

GEORGIA.—*Lumpkin:* Last year this county put up only forty-two bales. *Troup:* A little late but growing finely. *Pickens:* Smaller than usual, but in better condition and cultivation. *Douglass:* Small, but clean; stand good. *Bullock:* Crop being well worked. *Dooly:* Greatly benefited by the dry, warm May. *Muscogee:* Small and late blooming; growing slowly for lack of rain. *Richmond:* Healthy and vigorous, but average growth; not so advanced as it should be at this time; crops uncommonly clean. *Gwinnett:* Good average prospect. *Mitchell:* Short; well cultivated during the dry weather, and unusually clean. *Columbia:* Improved by late rains. *Effingham:* Looking well. *Elbert:* Three weeks of fine weather have advanced the crop to the usual standard of size and fruitage. *Hart:* Increased acreage; crops look well but are two weeks backward. *Butts:* Ten days late; fine. *Terrell:* Small, but healthy. *Banks:* Clean and well worked. *Hancock:* Too much rain; plants not so large as last year, nor so well fruited; grassy. *Milton:* Promising. *Madison:* Late, and poor stands. *Oglethorpe:* Will be short. *Pulaski:* Flattering. *Upson:* Rather above the average. *Walton:* Growing finely and well filled with forms. *Cobb:* Suffering for rain. *Lincoln:* Great improvement. *Clayton:* Decreased acreage. *Twiggs:* Two weeks late; there are a few fine crops, but there is a tendency to exaggerate their condition. *Taliaferro:* Precocious development of weed.

FLORIDA.—*Madison:* The late short dry spell was a benefit; growing thriftily. *Jackson:* Weed small, but unusually well fruited. *Jefferson:* Increased use of fertilizers. *Wakulla:* Greatly improved. *Gadsden:* Still average, though there are some complaints of "sore-shin." *Leon:* Weed not large, but well fruited and doing well.

ALABAMA.—*Saint Clair:* Promising. *Choctaw:* Weed smaller than last year. *Clarke:* Small, but doing well. *Macon:* Stands good, but small. *Crenshaw:* May possibly yield an average. *Montgomery:* Crop well worked, but slightly dwarfed by drought; never more promising. *Calhoun:* Fine on good land well manured; old land will not grow cotton without manure. *De Kalb:* Doing remarkably well for a few days past. *Dallas:* Continues promising. *Perry:* Higher average than for ten years. *Lawrence:* Late, but in fine growing order. *Shelby:* Limbing and forming well; the few commercial fertilizers used show a marked effect. *Monroe:* Good. *Pike:* Fine growing season. *Limestone:* Full average in size, but ten days late.

MISSISSIPPI.—*Amite:* Less cotton and more corn planted; crop looks as well as last year. *Pike:* Flourishing. *Newton:* More flourishing than for years. *Grenada:* Crop in better condition than last year, with labor more reliable. *Neshoba:* Late planted, but looks fine; well cultivated and clean. *Jasper:* Injured by lice in some parts. *Coahoma:* Dry, but crop in fine condition; blooms a week earlier than usual. *Clark:* Not so forward as last year, but in better culture; some of it is affected with sore-shin, the tap-root drying up. *Rankin:* More than made up its past slowness of growth. *La Fayette:* Later than last year, but promises double the yield; season exceptionally good for cultivation. *Washington:* Promising. *De Soto:* Small, but healthy and growing fast. *Kemper:* Healthy and growing. *Lowndes:* Weeding too fast, and fruiting too slowly. *Lincoln:* Generally average. *Lee:* Never more promising. *Tunica:* Large average, excellent stands and abundant labor. *Tishomingo:* Small, but growing finely. *Jefferson:* Not quite so promising as at this time last year. *Smith:* Below average.

LOUISIANA.—*East Baton Rouge:* Greatly improved since last report, and now fully ten per cent. above average. *Morehouse:* Later than usual, but in fine condition. *Franklin:* Late and small, but doing very well. *Concordia:* Small, but healthy and strong; some parts of the parish have suffered from drought, but rains now threaten to be in excess. *Tensas:* Very promising. *Washington:* Unusually fine. *Madison:* Growing very fine. *Richland:* Clean and coming on finely. *Union:* Average yield, though the acreage was decreased. *Bossier:* Eight weeks' drought, yet the crops stand it well. *Cameron:* Best prospect since the war. *Jackson:* Unusually fine. *Caldwell:* Promising.

TEXAS.—*Dallas:* Late, but fine. *Washington:* More promising than for years. *Upshur:* Better condition than last year. *Henderson:* Late in starting, but now good; bloomed June 15. *Burleson:* Blooming; promises a third more than last year. *Coryell:* Stand injured by cut-worms and other insects. *Collin:* Started late, and has not yet recovered; several unknown insects injuring the crop. *Gonzales:* Late, but doing well. *Kendall:* Prospect of an immense yield. *Limestone:* Slightly damaged by caterpillars on low lands. *Red River:* Growing finely. *Rusk:* Looks well, and bloomed early. *Williamson:* Looks well on old land; on new land beginning to need rain. *Bexar:* Condition good; full of squares and young bolls; needs rain. *Houston:* Unusually well cultivated, and hence in fine condition. *Titus:* Looks well, in spite of the cold, backward spring. *Harrison:* Late planted, but growing finely in the good weather. *Bandera:* Four-fifths destroyed by cut-worms. *Williamson:* Backward; beginning to need rain very badly. *Blanco:* Very good yet, in spite of drought. *Bosque:* Suffering from army-worm and drought. *Cooke:* Suffering for rain. *Fayette:* Suffering for rain. *Gillespie:* Looks well. *Hunt:* Threatened by drought and grasshoppers. *Waller:* Free from grass; one-third of the crop is unusually small and of slow growth; cotton-worm on three or four farms. *Galveston:* Beginning to need rain. *Smith:* Small and backward; general complaint of lice. *Montgomery:* Best prospects for years. *Matagorda:* Needs rain for weed-growth; caterpillars seen, but not threatening. *Anderson:* Unusually good condition, in spite of drought. *Hamilton:* Very backward, but growing well; considerably injured by what is sometimes called the cotton-grass worm, especially on sod-land. *Marion:* Drought; crop may yet reach average. *Navarro:* Drought, but crop not yet injured.

ARKANSAS.—*Garland:* Fine; on a decreased acreage we will double last year's yield. *Woodruff:* Lice, worms, and drought somewhat injurious. *Prairie:* Full average. *Van Buren:* Injured by lice. *Independence:* Later than last year; much replanting. *Ashley:* Fine showers. *Bradley:* Fine growing condition. *Dorsey:* Looks lovely. *Saint Francis:* Ten days late and very small; drought. *Crawford:* Doing well. *Sebastian:* Changing base from cotton to wheat. *Columbia:* Well worked. *Fulton:* Ten days late; decreased acreage. *Pope:* Promising. *Marion:* Small plants, but very promising.

TENNESSEE.—*Lincoln:* Plant unusually small. *Gibson:* Fine condition. *Williamson:* Acreage reduced 20 per cent.

OATS.

Returns for June showed an increased area sown. Returns of condition, for July 1, promise a large yield. Except New York, 94, and Pennsylvania, 98, all the large producing States are above average: Indiana, 110; Illinois, Ohio, and Oregon, 103; Wisconsin, 104; Minnesota, 106; Iowa, Texas, and Kentucky, 105; Missouri, 112. The other States which are average or above are, Maine, 103; New Hampshire, 100; Vermont and Florida, 101; Massachusetts, 102; Mississippi, 108; Louisiana, 104. Virginia, in which frost, drought, and rust have combined to injure the crop, is down to 74. The remaining States range between 82, in New Jersey, and 97, in Connecticut, North Carolina, and West Virginia.

MAINE.—*Androscoggin:* Look well.

NEW HAMPSHIRE.—*Hillsborough:* Look well.

VERMONT.—*Rutland:* Late, but promising.

CONNECTICUT.—*New London:* Late, but look exceedingly well.

NEW YORK.—*Schoharie:* Fine. *Livingston:* Fine growing rains. *Saratoga:* Promising; full strawed and grain equal to last year. *Genesee:* Pinched by drought. *Orange:* Very short. *Seneca:* Doing well; good color. *Erie:* Very good.

NEW JERSEY.—*Warren:* Stand well on the ground and of good color, but short-strawed. *Hudson:* Some late and shortened by drought.

PENNSYLVANIA.—*Bucks:* Improved by late rains. *Clinton:* Short. *Butler:* Fine. *Indiana:* Promising. *Sullivan:* Promising since late rains.

MARYLAND.—*Worcester:* Generally fair; Canada oats from the Department doing finely. *Armstrong:* Extra good. *Baltimore:* Much improved. *Calvert:* Greatly improved by late rains, but cannot yield a full crop. *Cecil:* Below average, but greatly benefited by late rains.

VIRGINIA.—*Tazewell:* Shortened by drought. *Bland:* Improved by late rains. *Alexandria:* Rescued from failure by late rains. *Warwick:* Shortened by drought. *Spottsylvania:* Very short. *Rappahannock:* Shortened by drought. *Orange:* Marvelous improvement within two weeks. *Henry:* Mean. *Craig:* Great improvement; rain. *Dinwiddie:* Improved. *Halifax:* Improved. *King George:* Winter-oats fine; spring oats failed. *Mecklenburgh:* Low-land crops rusting. *Sussex:* Injured by cold and drought. *Worthington:* Good crop. *Wythe:* Short. *Cumberland:* Short. *Washington:* Severe drought. *Matthews:* Seeded too late to make a crop. *Augusta:* Short and thin. *Highland:* Inferior. *Roanoke:* A failure. *Chesterfield:* Winter-oats good; spring, a failure. *Nansemond:* On some farms not worth cutting. *Northampton:* Rusted badly; fair yield.

NORTH CAROLINA.—*Chowan:* Good. *Beaufort:* Drought in May and June. *Perquimans:* Good. *Alamance:* Winter-oats unusually good. *Davidson:* Greatly benefited by late rains. *Yadkin:* Too dry. *Greene:* Half crop; injured by frost. *Hertford:* Very short. *Haywood:* Favorable season. *Montgomery:* Best crop ever known here. *Caldwell:* Improved by rains. *Buncombe:* Good.

SOUTH CAROLINA.—*Spartanburg:* Chronic failures discourage the crop. *York:* Fall sowings good. *Lexington:* Above average and of superior quality.

GEORGIA.—*Troup:* Low, but finely headed. *McDuffie:* Best crop in twenty years. *Columbia:* Fall-oats fine, but spring-crops shortened by the May drought. *Hall:* Drought. *Butts:* Almost a failure; drought. *Terrell:* Better than last year. *Upson:* Generally good. *Telfair:* Rusted. *Walton:* Improved. *Cobb:* Badly injured by drought. *Wilkes:* Fall-crop good; spring, par.

FLORIDA.—*Madison:* Best crop for years. *Jackson:* Fall-oats good; spring, partly rusted. *Hamilton:* Very fine.

ALABAMA.—*Lowndes:* Injured by drought. *Saint Clair:* Spring-oats marred by drought. *Crenshaw:* Drought. *Chambers:* Seriously injured by drought. *Calhoun:* Poor, except fall-oats, which are very fine. *De Kalb:* Poorest crop ever known here. *Perry:* Need rain.

MISSISSIPPI.—*Newton:* Crop unsurpassed. *Grenada:* Late rains have greatly improved the crop. *Rankin:* Some yields as high as 40 or 50 bushels per acre. *Lee:* Some rust. *Lincoln:* Full average; good condition.

LOUISIANA.—*Bienville:* Injured by rust. *Jackson:* Never better.

TEXAS.—*Collin:* Red and black oats very good; white, subject to rust. *Red River:* Very fine. *Polk:* Straw shorter than last year, but heads good. *Williamson:* Largely increased acreage; crop good, and will probably average 45 bushels per acre. *Bexar:* Never better; averages 60 bushels per acre; one crop averaged 70 bushels, worth 75 cents in specie. *Titus:* Seventy-five per cent. above average. *Somerville:* Twenty-five

per cent. behind last year. *Grayson:* Splendid crop; 60 to 70 bushels per acre. *Shelby:* No rust; over average.

ARKANSAS.—*Prairie:* Fine. *Baxter:* Promising. *Ouachita:* Largest crop ever raised. *Hempstead:* Fine. *Pope:* Better than for many years.

TENNESSEE.—*Knox:* Wonderful improvement in a month. *Carter:* Damaged by drought, but improved by late abundant rains. *Monroe:* Coming out finely. *Hawkins:* Shortened by drought. *Johnson:* Improved by late rains. *Loudon:* Greatly improved. *Blount:* A third of a crop. *Bradley:* Fall-sown, fine and heavy; spring sown, a failure. *Montgomery:* Very fine. *Hancock:* Never better. *Grainger:* Superb, though we once thought the crop was ruined.

WEST VIRGINIA.—*Tucker:* Improved by late rains. *Braxton:* Late, but promising. *Brooke:* Unusually fine. *Cabell:* Much below an average. *Jackson:* Short, but improving. *Pocahontas:* Much benefited by late rains. *Mercer:* Not promising. *Monroe:* Improving. *Harrison:* Promising. *Mason:* Recent abundant rains have had a good effect.

KENTUCKY.—*Shelby:* Almost a failure; too low to cut in most of the fields. *Lincoln:* Low from early drought, but heads good and quite promising. *Pendleton:* Promising. *Metcalfe:* Look very fine. *Gallatin:* Looking exceedingly well. *Anderson:* Have improved.

OHIO.—*Trumbull:* Look well. *Williams:* Have never had so fine a prospect. *Morrow:* Promise unusually well. *Perry:* Fine. *Coshocton:* Promise full crop. *Mahoning:* Tall and fine. *Marion:* In danger of lodging. *Harrison:* Look well. *Geauga:* Early sowed, promising, but the late light. *Delaware:* Increased acreage and an excellent prospect. *Van Wert:* Very much lodged and damaged by rain. *Henry:* Heavy growth, but lodged; cannot be over three-fourths of an average.

MICHIGAN.—*Branch:* Never better, and a good breadth sown. *Lake:* Damaged by frost in June. *Livingston:* unequaled. *Shiawassee:* Look well, but need rain.

INDIANA.—*Jennings:* Very fine. *Franklin:* Look unusually well. *Steuben:* Universally good. *Decatur:* Doing well. *Whitley:* Prospect fine. *Washington:* Look very fine. *Noble:* Good; never a better prospect. *Cass:* The best crop for twenty-five years. *Scott:* Remarkably fine, with large increase in area. *Hamilton:* A heavy growth of straw, in danger of lodging, and not filling.

ILLINOIS.—*Vermillion:* The heavist crop for years, but falling down. *Randolph:* Have grown too rank. *Effingham:* Will likely be a partial failure, on account of the very wet harvest weather. *De Witt:* Rank growth, but have recently fallen down, and are not promising. *Cook:* Largely damaged by April freeze. *Sangamon:* Growing rank, and badly lodged in some places by heavy rains and wind. *Cass:* Falling badly. *Livingston:* In some places blown down. *Mason:* Badly down, yet look well; "Early Fellow" and "Somerset" excel native varieties. *Massac:* Fine. *McLean:* Badly blown down. *Piatt:* Too much straw, and in danger of falling. *Moultrie:* Badly down. *Fayette:* Good, but badly fallen.

WISCONSIN.—*Vernon:* Generally look well.

MINNESOTA.—*Cottonwood:* Very good.

IOWA.—*Crawford:* Splendid. *Story:* Season has been favorable for oats. *Mills:* In danger from rain and rust. *Louisa:* Growing tall, and in danger of falling. *Hardin:* Overgrowth of straw, and falling. *Hancock:* Heavy.

MISSOURI.—*Crawford:* Acreage small, from lack of seed; crop looks well. *Greene:* Best crop for the last ten years. *Maries:* Never better, but lodged badly. *Saint Francis:* Very fine. *Jasper:* Never better. *Grundy:* White Schonen, Potato, and Somerset oats from the Department a great improvement on our native varieties.

KANSAS.—*Neosho:* What the grasshoppers left is good. *Woodson:* Somerset oats from the Department larger and heavier than the common black oats, but later in maturing. *Labette:* Best crop yet raised here. *Crawford:* Looking well. *Cherokee:* Excellent prospect. *Brown:* Badly injured by grasshoppers. *Chase:* Injured by drought in June. *Cowley:* Very fine.

NEBRASKA.—*Antelope:* One-third destroyed by grasshoppers. *Franklin:* Injured by grasshoppers.

CALIFORNIA.—*Sonoma:* Considerably injured by heavy rains.

OREGON.—*Clackamas:* Benefited by favorable seasons. *Columbia:* Excellent. *Tillamook:* Backward. *Grant:* Favorable season.

THE TERRITORIES.—*Scvier, Utah:* Straw short. *Walla-Walla, Washington:* Look well. *Lewis and Clarke, Montana:* Backward, but doing well. *Yankton, Dakota:* Growth rank.

RYE.

In the States producing rye on a large scale, except Wisconsin, 100, the condition is reported considerably below average; in New York, winter 77, spring 90; Pennsylvania, 90 and 97; Illinois, 97; Kentucky, 95.

In New England, spring-rye is about average; winter, slightly below. The other Atlantic States range between 90 and 100, Maryland being 92, and Virginia 94. None of the Gulf States fall below average. Alabama is 103 and Texas 102. The highest condition reported, 119, is in Arkansas. Tennessee and Nebraska are each 103. In the remaining States the condition ranges from 86 to 98.

BARLEY.

The condition of the crop in California is, winter 82, spring 86; Oregon, 99 and 101; New York, 97; Pennsylvania, 94 and 89; Ohio, 72 and 100; Michigan, 108 and 102; Illinois, 94; Wisconsin, 97 and 88; Iowa, 102; Minnesota, 107. In the New England States, taken together, the condition is nearly average. Texas returns 111. In the remaining States, producing barley in small quantities, the condition ranges from average to 15 per cent. below, Kansas being at the latter figure.

POTATOES.

Returns show an increase over last year of 4 per cent. in the acreage of potatoes. Among the Eastern and Atlantic States the area remains unchanged in Vermont, is increased 3 per cent. in Maine, 1 in New York, and 5 in North Carolina; in all others decreased, ranging from 99 down to 82. The principal relative increase is on the western border of the Gulf and up the Mississippi Valley. Among the States reporting highest are, Texas, 14 per cent.; Arkansas, 27; Tennessee, 12; Indiana, 35; Illinois, 16; Iowa and Louisiana, 7; Missouri and Mississippi, 6; Nebraska, 22. Kansas decreases 12 per cent., and California 13. The condition in the Eastern, Middle, and Atlantic States is below average. Except Maryland, 82, and Rhode Island, 85, the range is between 87 and 99. New York, the great potato State, is 96. Pennsylvania and New Jersey, 94. Alabama averages 86; West Virginia, 99; Kansas, 98; California, 85; Oregon, 96. All the remaining States report the condition average or above, the range being from 100 to 125. Arkansas reports at the latter figure; Illinois, 118; Kentucky, 116; Texas, 112; Indiana, 110; Ohio, 108.

NEW YORK.—*Oneida:* Injured by frost. *Steuben:* Potato-beetles numerous and troublesome. *Westchester:* Colorado beetle in several places. *Chenango:* Injured by frost, but repaired by subsequent warm rains. *Montgomery:* Colorado beetles have appeared. *Saratoga:* Colorado beetles. *Wyoming:* Colorado beetles; not much harm yet. *Orange:* Doing well, but threatened with beetles; acreage increased. *Erie:* But little damage from beetles yet.

NEW JERSEY.—*Atlantic:* Beetles troublesome, but Paris green was very effective in destroying them. *Burlington:* Doing well, in spite of bugs. *Monmouth:* Beetles in great numbers. *Gloucester:* Beetles injurious, but crop large. *Hudson:* Some damage from beetles; early crops safe. *Sussex:* Doing well, but threatened by beetles. *Salem:* Beetles very destructive.

PENNSYLVANIA.—*Cumberland:* Colorado beetles numerous and voracious, but strongly resisted with Paris green. *Westmoreland:* Beetles. *Bucks:* Colorado beetles. *Columbia:* Beetles plenty, but doing little damage. *McKean:* Beetles worse than ever. *Clinton:* Beetles plenty, but successfully met with Paris green. *Lancaster:* Growing finely. *Elk:* Frost killed to the ground. *Indiana:* Beetles very destructive. *Lycoming:* Very fine. *Montour:* Beetles somewhat destructive. *Dauphin:* Badly injured by beetles. *Luzerne:* Beetles.

DELAWARE.—*Sussex:* Severely injured by beetles. *Kent:* Beetles very destructive.

MARYLAND.—*Caroline:* Colorado beetles very injurious. *Worcester:* Colorado beetles numerous, but less destructive than formerly; crop not materially injured. *Frederick:* Beetles disappearing. *Carroll:* Paris green quickly destroys the beetles. *Baltimore:* Bugs successfully resisted. *Dorchester:* Beetles very bad. *Harford:* Acreage restricted by the early appearance of beetles. *Wicomico:* Damaged by beetles. *Howard:* Beetles destructive.

VIRGINIA.—*Spottsylvania:* Only a few bugs, and they killed as fast as hatched.

Craig: Early plantings good; beetles numerous and threatening. *Cumberland:* Beetles threatening. *Campbell:* Excellent. *Prince William:* Injured by beetles. *Westmoreland:* Beetles numerous. *Augusta:* Beetles injurious in some quarters. *Culpeper:* Beetles in force. *Highland:* Injured by late rains. *Northampton:* Good yield, but low prices.

NORTH CAROLINA.—*Greene:* Very good. *Buncombe:* Good crop.

SOUTH CAROLINA.—*Richland:* Injured by drought.

GEORGIA.—*Muscogee:* Sorry.

FLORIDA.—*Jackson:* Fine. *Wakulla:* Seasonable weather. *Gadsden:* Quite satisfactory. *Leon:* Larger acreage than usual; mostly for northern markets, but with poor success.

ALABAMA.—*Laurens:* Injured by drought. *Montgomery:* Have turned out well. *Mobile:* Fine.

MISSISSIPPI.—*Tishomingo:* Rotting in the ground.

LOUISIANA.—*Richland:* Colorado beetle cut down late crops one-half. *Cameron:* Too dry.

TEXAS.—*Burleson:* Good yield. *Collin:* Early varieties fine, especially Early Rose. *Rusk:* Yielded finely. *Titus:* First crop, 25 per cent. above average; second crop, a failure from drought. *Austin:* Tolerable. *Waller:* Good crop. *Harris:* Remarkably good and plenty.

ARKANSAS.—*Prairie:* Early varieties never better. *Pope:* Very good.

TENNESSEE.—*Warren:* Potato-bugs appeared, but were driven off by Paris green. *Wilson:* Splendid.

WEST VIRGINIA.—*Tucker:* Better than usual. *Morgan:* Crop almost destroyed by beetles. *Braxton:* Late, but very promising; late crop not injured by beetles. *Cabell:* Fine. *Grant:* Appearance good; but little complaint of beetles. *Jefferson:* Suffering from depredations of Colorado beetles, causing farmers to plant a larger area than usual of sweet-potatoes. *Pendleton:* Look well. *Mercer:* Indication favorable. *Hancock:* Average 25 per cent. above last year, owing to effective means of destroying Colorado beetles and favorable season. *Monroe:* Not favorable. *Preston:* Have escaped the ravages of the Colorado beetles; anticipate a good crop. *Mason:* Crop never looked better than at the present; beetles have nearly disappeared.

KENTUCKY.—*Jefferson:* A fair crop; not injured by beetles; acreage less than usual. *Shelby:* Fine, with little annoyance from Colorado beetles; yield promises double that of last year, and better quality. *Lincoln:* Promise very fine; no damage from Colorado beetles.

OHIO.—*Trumbull:* Bid fair to make good crop. *Morrow:* Extraordinary crop. *Perry:* Promising. *Medina:* Look promising. *Geauga:* Late, but growing finely; prospect of a heavy crop. *Henry:* Unpromising.

MICHIGAN.—*Branch:* Look very fine; not injured by beetles. *Van Buren:* Good prospect for a large crop. *Tuscola:* Doing nicely, with fewer beetles than last year. *Livingston:* Very promising. *Shiawassee:* Look fine; not damaged by the beetle.

INDIANA.—*Floyd:* Crop immense; seed not realized last year. *Franklin:* Never looked better. *Decatur:* A large crop planted and doing well; not injured by Colorado beetles. *Dubois:* Increased acreage, and doing well. *Pike:* Somewhat injured by Colorado beetles. *Cass:* Never better. *Tippecanoe:* Especially promising. *Lake:* Large crop planted; have made a remarkable growth; have not had such a prospect for years.

ILLINOIS.—*Edwards:* Look well, though late; not damaged by insects. *Lake:* Look promising. *Pope:* Not yet planted; can plant in this county from June 20 to July 15. *Shelby:* Prospect very fine. *De Kalb:* Far above an average. *Warren:* Promising; no Colorado beetles. *Macon:* Not so many planted as usual, but never had a better prospect. *Bureau:* More promising than for several years. *Boone:* Looking very well, and not damaged by Colorado beetles. *Livingston:* Condition good; a long lead-colored bug has appeared, but the vines are growing faster than millions of them can eat. *Mason:* Looking fine. *Monroe:* Very promising.

WISCONSIN.—*Iowa:* Never looked better; but few bugs and little damage. *Clark:* The crop promises to be above an average. *Door:* Injured by frost on the 11th and 12th of June.

MINNESOTA.—*Isanti:* Look well. *Cottonwood:* Doing very well. *Mille Lacs:* Will require great exertions to save them from the Colorado beetles.

KANSAS.—*Washington:* Large yield in prospect. *Jefferson:* Badly injured by grasshoppers. *Reno:* Look well. *Labette:* Colorado beetles. *Cowley:* Fair crop.

NEBRASKA.—*Webster:* Splendid crop. *Otoe:* Tops taken by grasshoppers. *Antelope:* Injured by grasshoppers and Colorado beetles.

CALIFORNIA.—*Alameda:* Early crops, in some places, rotted; selling at $1.75 to $2.25 per bushel. *Amador:* Benefited by late rains.

OREGON.—*Lane:* Considerably injured by frosts in May. *Clackamas:* High prices have induced large plantings. *Tillamook:* Prospects better than for several years. *Columbia:* Two dollars per bushel, and but few in market.

THE TERRITORIES.—*Snohomish, Washington:* Very poor; drought.

WOOL.

The wool-clip shows a considerable increase, especially in the South and West and on the Pacific coast. Nebraska increased her yield 31 per cent. above last year; Kansas, 23 per cent.; Iowa and California, 11 per cent.; Oregon, 10 per cent.; Minnesota, 8 per cent.; Arkansas, 7 per cent.; Mississippi, 4 per cent.; Texas, 3 per cent.; Connecticut and West Virginia, 2 per cent.; Maine, New Jersey, South Carolina, and Louisiana, 1 per cent. Delaware, Maryland, and Kentucky yield a clip equal to last year's. The greatest reduction, 10 per cent., was in Rhode Island, where the clip was small; Ohio was 5 per cent. short; New York and Virginia, 4 per cent.; Vermont, Massachusetts, Alabama, Illinois, and Missouri, 3 per cent.; New Hampshire, Pennsylvania, and North Carolina, 2 per cent.; Georgia, Florida, Tennessee, Michigan, and Indiana, 1 per cent.

NEW YORK.—*Columbia:* Wool above average, bringing 40 to 42 cents per pound.
NORTH CAROLINA.—*Jones:* Increase over last year 20 per cent.
GEORGIA.—*Worth:* Crop fine; business largely increasing; wool so high that you can scarcely buy a mutton.
FLORIDA.—*Jackson:* Wool-product increasing.
WEST VIRGINIA.—*Pocahontas:* The light fall of snow and good condition of sheep increases the wool-clip. *Boone:* We have one of the best wool-growing counties, yet ten per cent. of our sheep have been killed by dogs. Cannot something be done for the better protection of this valuable property? Are a majority of our people both fools and blind?
KENTUCKY.—*Boyle:* Increase from sheep driven into the county.
OHIO.—*Morrow:* Smaller clip, but of better quality.
WISCONSIN.—*Walworth:* Clip unusually large and in fine condition.
MISSOURI.—*Camden:* Wool-growing rapidly increasing.
THE TERRITORIES.—*Laramie, Wyoming:* Wool-growing has assumed immense proportions within a year. One grazier has increased his flock of sheep from 3,000 to 32,000 head. Other parties have also enlarged their flocks by purchases from the East and from New Mexico.

TOBACCO.

The severe drought which almost destroyed the tobacco-crop in some of the largest tobacco-producing sections last year reduced the acreage of 1874 to a small fraction of that of 1873. The large increase of 1875, 175 per cent., has not brought the breadth planted up to the standard of 1873. The following States have increased their acreage, viz: Maryland, 4 per cent.; Virginia, 30 per cent.; North Carolina, 33 per cent.; South Carolina, 7 per cent.; Florida, 23 per cent.; Mississippi, 16 per cent.; Arkansas, 10 per cent.; Tennessee, 203 per cent.; West Virginia, 31 per cent.; Kentucky, 223 per cent.; Ohio, 25 per cent.; Indiana, 49 per cent.; Illinois, 56 per cent.; Missouri, 60 per cent. New York, Pennsylvania, and Texas report the same area as last year. The following States have reduced their acreage, viz: New Hampshire, 30 per cent.; Massachusetts, 25 per cent.; Connecticut, 2 per cent.; Georgia, 5 per cent.; Alabama, 10 per cent.; Louisiana, 7 per cent.; Wisconsin, 17 per cent.; Kansas, 11 per cent. The acreage of 1875 is about twice and three-quarters of that of the preceding year.

The condition of the crop of the whole country is at least 20 per cent. above average, being the most satisfactory in the largest tobacco States. Our reports from Kentucky, which produces two-fifths of the tobacco of the country, show a condition 34 per cent. above average; Virginia, 3 per cent. below; Tennessee, 6 per cent. above; Ohio, 2 per cent. below; Maryland, 1 per cent. above; Missouri and North Carolina, 2 per cent. above. Most of the heavy tobacco States are either very nearly average or above. A very depressed condition is found

only in those States whose yield is too small to greatly affect the general result.

The crop has been increased in several localities of Virginia in consequence of the establishment of tobacco-factories. Tobacco-flies were noted in Pittsylvania. In some counties of North Carolina the labor-question was affecting somewhat the growth of the crop. Gadsden, Florida, finds the Cuba tobacco the crop specially adapted to poor men. One county in Kentucky reports ten times the acreage of last year; cultivation and prospects generally satisfactory. In Missouri grasshoppers have taken to tobacco-chewing, but no damage greatly affecting the crop of the State is reported.

CONNECTICUT.—*New London:* Three weeks late, but looks unusually thrifty.
PENNSYLVANIA.—*Cumberland:* Very unpromising.
MARYLAND.—*Charles:* Acreage large. *Calvert:* Some increase of acreage; stands well on the ground. *Howard:* Increased acreage.
VIRGINIA.—*Powhatan:* The crop promises well. *Bland:* Crop increased in consequence of the establishment of several new factories. *Spottsylvania:* Large acreage and promising growth. *Pittsylvania:* Somewhat late planted; some plants troubled with flies. *Henry:* Full crop planted; looks well. *Dinwiddie:* Tobacco replacing cotton; large area planted. *Halifax:* Good stand, and growing well. *Mecklenburgh:* Starting finely; good season for setting out plants. *Campbell:* Large crop planted; looks well. *Chesterfield:* Large crop planted, and doing well. *Goochland:* Unfavorable planting-season. *Prince George:* Acreage increased 25 per cent.; stand bad.
NORTH CAROLINA.—*Yancey:* More planted for family use than common. *Caswell:* Acreage reduced, in consequence of the diminution of farm-laborers within three years. *Alamance:* Acreage increased 25 per cent. above average. *Davidson:* Doing well. *Davie:* Larger acreage than ever before. *Buncombe:* Double last year's acreage; excellent planting-season.
GEORGIA.—*Hall:* Shortened by drought.
FLORIDA.—*Gadsden:* Acreage in Cuba tobacco doubled; it is our best crop for poor men.
TEXAS.—*Titus:* Too dry; looks badly.
TENNESSEE.—*Smith:* Four times the acreage of last year. *Greene:* Many tobacco-consumers are raising their own supplies. *Houston:* Extraordinarily fine. *Trousdale:* One of the largest crops ever planted.
WEST VIRGINIA.—*Wetzel:* Plants just being set out; weather seasonable.
KENTUCKY.—*Carroll:* Large crop planted. *Hardin:* A fine season for planting, and a great deal yet to plant. *Warren:* Acreage double; present condition good. *Adair:* Recent rains have caused the setting of a large crop. *Christian:* Promising very fine; acreage one-fourth more than usual. *Russell:* Setting ten times that of last year, and at least four times the usual crop; season good. *Owen:* One-fourth above an average; flattering prospect of a large yield. *Metcalfe:* Full crop planted. *Logan:* A very large crop planted, and looking very well. *Harrison:* Four times the acreage of 1874. *Graves:* A fine season for tobacco; a large crop planted. *Gallatin:* A large crop; reported as "rotting off at the ground" by wet weather. *Edmonson:* The greatest acreage of tobacco ever known in the county. *Callaway:* A larger crop than in any previous year; generally looks well. *Breckinridge:* Crop unusually large; stand good. *Cumberland:* Crop ten times that of last year; set with good plants, in due time; land well prepared, and is growing rapidly.
INDIANA.—*Dubois:* Acreage two or three times that of any former year; set in good time, and doing well.
MISSOURI.—*Chariton:* Large acreage; crop well planted, and doing well. *Camden:* Tobacco-growing rapidly increasing. *Adair:* Ten per cent. more plants set out than last year. *Lincoln:* Many plants killed by the freeze of April 17. *Carroll:* Chewed up by grasshoppers.

SUGAR-CANE.

Mississippi reports an increased acreage of 8 per cent., and Georgia of 1 per cent. The other sugar-producing States, however, show a decline. Louisiana, which produces the great mass of American cane-sugar, is 2 per cent. below last year's acreage; South Carolina, 3 per cent.; Texas, 5 per cent.; Alabama, 6 per cent.; and Florida, 14 per cent. Louisiana reports average condition, and Mississippi, 3 per cent. above. The other States are all below average from 3 to 10 per

cent. The severe cold of spring injured seed-cane in some counties, leaving the most of the crop to be made from stubble-cane.

GEORGIA.—*Mitchell:* Seed-cane largely destroyed by severe cold.
FLORIDA.—*Madison:* Improved by late rains. *Manatee:* Good season. *Wakulla:* Cold snap killed the eyes of nearly all the sugar-cane; the present crop mostly from stubble. *Gadsden:* Increased attention to this crop.
ALABAMA.—*Crenshaw:* Not over half a crop, for want of seed-cane to plant. *Covington:* Decreased acreage; cane put up for seed in the fall was injured.
MISSISSIPPI.—*Neshoba:* Injured by cold.
TEXAS.—*Rusk:* Plant-cane growing finely; stubble-cane flattering. *Polk:* All right up to date.

SORGHUM.

In South Carolina and Tennessee the acreage remains the same as last year. It is increased in Georgia 11 per cent.; Alabama, 3; Mississippi, 20; Texas, 9; Arkansas, 36; Minnesota, 31; Kansas, 10; Nebraska, 6. In all the other States in which sorghum is grown the acreage has declined. The greatest decrease is in Wisconsin, 19 per cent. In other States the range of decrease is from 3 to 11 per cent.

Mississippi, 108, Kansas, 102, and Arkansas, 101, are the only States in which the condition is above average. In Pennsylvania and South Carolina it is average; in other States it ranges from 82 to 98.

FRUIT.

Fruit-crops suffered from numerous casualties. Late frosts and severe winter freezes were especially destructive, not only to fruit, but also to trees. A very general recurrence of severe winter temperature about the middle of April is noted in our reports, yet the injury inflicted has not been found to be so permanent as was at first supposed. Insects destructive of fruit were quite various in entomological character, but their ravages have not been very serious in the aggregate.

APPLES.—Apples are below average in all the States except Vermont, 102, Florida, 100, Texas, 101. The lowest average was in Indiana, 31. The New England States vary from 102, in Vermont, to 56, in Connecticut. The Middle States range low, from 71, in New York, to 61, in New Jersey. In the South Atlantic States, except Maryland, 90, the the average is still lower, ranging from 50, in Virginia, to 77, in Georgia. The Gulf States, except Florida and Texas, range from 73, in Alabama, to 99, in Mississippi. In the inland Southern States, Arkansas, 98, is almost average. Some counties report fruit as appearing fair, but tending to early rot. In the other States of this region the crop is very poor—Tennessee, 46; West Virginia, 33; Kentucky, 50. North of the Ohio River the condition is still worse—Ohio averages but 33; Michigan, 64; Indiana, 31; Illinois, 38; Wisconsin, 48. West of the Mississippi the State averages are higher—Minnesota, 89; Iowa, 77; Missouri, 74; Kansas, 50; Nebraska, 61. The Pacific coast is about three-quarters of an average.

PEACHES.—The peach-crop suffered still more severely than apples from the freezes of winter and frosts of spring. The highest average condition is found in the North Atlantic States and in the Gulf States. The maximum is in Mississippi, 113, and the minimum in Ohio, 17. Of the New England States, New Hampshire falls 6 per cent. below average, but the other States are full average or above. Of the Middle States, New Jersey and Delaware, on the coast, are nearly or quite full average, while the inland regions of New York fall 25 per cent., and those of Pennsylvania 39 per cent. In Sussex, Delaware, Hale's Early

was the only variety of peaches of which the trees were full. The South Atlantic States range from nearly average, in Maryland, to 21, in North Carolina. In the Gulf States, peaches were reported as dropping from the trees in Florida, where the crop averaged but 71; in Alabama, averaged 77. In Montgomery Early Beatrice peaches were ready for shipment May 28; Early Rivers and Louise, June 1 to 5; Hale's and Tillotson's Early came in ten days later than in 1871. Mississippi has a large crop, but many counties have but a poor market. In Hinds County the fruit-growers will lose $50,000 by the failure of railroads to provide adequate transportation. Louisiana, Texas, and Arkansas, with a full average crop, complain of a tendency to rot in some places. The crop is of little value in the other inland Southern States and north of the Ohio River, where late frosts combined with spring freezes exerted their most destructive influence. West of the Missouri the prospect is a little better. The Pacific coast will not be much over a half average.

GRAPES.—Grapes have done better than either apples or peaches. Their maximum was in Arkansas, 109. The other States average or above were Delaware 100, Maryland 104, Louisiana 102, Texas 108, and Iowa 101. The New England States were all above 90. Of the Middle States, New York was 16 per cent., New Jersey 4 per cent., and Pennsylvania 3 per cent. below average. The South Atlantic and Gulf States, as a whole, averaged considerably above 90. The Scuppernong grapes still exhibit their superior vitality. The southern inland States will run about the same, but north of the Ohio the condition is somewhat lower. West of the Mississippi, Kansas and Nebraska will have but a half crop, but the other States will come nearly to average. On the Pacific coast, California is nearly average; Oregon over three-quarters.

STRAWBERRIES.—The North Atlantic States, as a whole, return over an average crop, New York and Pennsylvania being about 10 per cent. below; the southern, together, will average about 90. Ohio is but 75; but the other Northwestern States are all higher, Wisconsin and Iowa being above average. Kansas, 57, represents the lowest condition in the whole country. On the Pacific coast California reports 80, and Oregon 92.

MAINE.—*Androscoggin:* Apples almost a failure; bloom small. Fruit injured by caterpillars. Grapes look well. *Piscataquis:* Strawberries look well; not quite ripe. *Franklin:* Apples especially injured by fruit-caterpillars. *Cumberland:* Poor prospect for apples, but good for small fruit.

VERMONT.—*Franklin:* Apples badly injured by apple-worms. *Grand Isle:* Apples and fruits injured by fruit-worms.

CONNECTICUT.—*New London:* Apples half crop, peaches and grapes full crops; strawberries two weeks late, but yielded well.

NEW YORK.—*Washington:* Apple-crop light. *Niagara:* Many of the best peach-trees winter-killed; most severe injuries in good, dry peach land. *Columbia:* Apple-crop light in the north, but better toward the south. *Chenango:* Injured by June frost. *Allegany:* Cultivated fruits will be scarce, except strawberries and raspberries. *Seneca:* Apples short. *Franklin:* Apple-trees damaged by late spring-frosts; many died. *Monroe:* Apples quite promising, but dropping considerably. *Erie:* Apples small and backward; trees only part full.

NEW JERSEY.—*Warren:* Apples good for the light bloom; strawberries poor. *Burlington:* Grape-vines injured by the winter. *Gloucester:* Heavy crop of peaches.

PENNSYLVANIA.—*Northampton:* No apples. *Armstrong:* Grapes badly winter-killed. *Elk:* Fruit a total failure. *Tioga:* Apples destroyed by June frosts. *Washington:* Apples and peaches a general failure.

DELAWARE.—*Sussex:* Hale's Early the only full peach-trees. *Kent:* Slugs on pear-trees; fresh-slaked lime a good remedy.

MARYLAND.—*Caroline:* Apples and peaches good crop; strawberries cut short. *Dorchester:* Apples and peaches promise a large yield. *Calvert:* More peaches than were expected early in the spring. *Howard:* Apples and peaches, good bloom and plenty of fruit.

VIRGINIA.—*Powhatan:* Peaches, pears, and early apples frost-killed. *Henrico:* No

apples or peaches; grapes looking well though reduced by the April cold snap. *Sussex:* Few apples; no peaches or cherries; grapes very fine. *Wythe:* No peaches or apples. *Page:* Peaches very few. *Cumberland:* Fruit mostly destroyed by frost in April; a third of a crop of apples. *Fairfax:* All fruits abundant. *Highland:* Apples failed; few peaches. *Roanoke:* No fruit of any kind.

North Carolina.—*Robeson:* Apples and peaches entirely destroyed. *Chowan:* Apples and peaches failed. *Pamlico:* Apples and peaches cut off by frosts. *Mitchell:* Grape bloom abundant. *Madison:* Apples and peaches mostly killed. *Anson:* Apples and peaches almost an entire failure. *Perquimans:* Failure. *Caswell:* Peaches an entire failure. *Alamance:* No peaches; few apples. *Davie:* Apples and peaches nearly destroyed by late frosts. *Columbus:* No fruit except grapes and blackberries. *Greene:* Apples and peaches a total failure. *Hertford:* No apples or peaches. *Moore:* No fruit except berries and small grapes. *Stanly:* The new strawberry, "Monarch of the West," is unequaled for fruitfulness, great size, and sweetness. *Onslow:* Peaches and apples a total failure. *Buncombe:* Apples and peaches mostly frost-killed; strawberries abundant. *Jones:* Apples and peaches cut off by late frosts.

South Carolina.—*Colleton:* Peaches scarce. *Darlington:* Fruit all frosted except Scuppernong grapes.

Georgia.—*Troup:* Grapes never better. *Dooly:* Mostly killed. *Gwinnett:* Peach and grape crops the best for years. *Upson:* Apples, peaches, grapes, and strawberries doing well. *Walton:* Fruit-crop short.

Florida.—*Manatee:* Oranges, limes, and lemons larger for the season than ever before known. *Columbia:* Peaches still dropping. *Orange:* Orange-culture increasing; settlers coming in and planting trees by the thousand.

Alabama.—*Montgomery:* All fruits fine in yield and quality; Early Beatrice peaches ripened for shipment May 28; Early Rivers and Louise were ready from 1st to 5th of June; Hale's Early and Tillotson's Early, June 10 to 15. The last-named came in ten days later than in 1871. *Calhoun:* Fruit has not done well. *Marshall:* Apples and peaches almost an entire failure; grapes and strawberries fine. *Lawrence:* Peaches and grapes injured by late frosts. *Shelby:* Apples and peaches failed through frost. *Covington:* Scuppernong never fails.

Mississippi.—*Tishomingo:* Apples and peaches failed. *Madison:* Pears excellent; 50 per cent. over average. *Hinds:* Fruit-crop fine but no market; we will lose $50,000 this year by failure of the railroads to give sufficient facilities; our railroads do not foster local interests. *Smith:* Grapes rotted badly; vines heavy loaded.

Louisiana.—*East Baton Rouge:* Peach-crop, which was full and promising, is rotting badly; grapes could not be more promising. *Jackson:* Fruits abundant and very fine.

Texas.—*Cherokee:* Last year nearly three-fourths of the peach-trees bloomed the second time, but a January frost killed some, and others are dying. *Upshur:* All sorts a small yield. *Coryell:* Peaches under average from cold; grapes fine. *Collin:* Peaches a short crop. *Polk:* Peaches plenty, and of fair variety. *Williamson:* Apples fine and large; peaches short, but of superior quality; plums, large crop of superior fruit. *Titus:* Apple and peach buds winter-killed. *Austin:* All sorts injured except grapes.

Arkansas.—*Dorsey:* Fruit abundant but tending to rot, especially bunch-grapes; Scuppernong, very fine. *Howard:* Apples average.

Tennessee.—*Lincoln:* Fruit a failure in three-fourths of the county. *Fentress:* Fruit badly injured by the April freeze. *Greene:* Apples and peaches very few. *Coffee:* Fruit mostly killed by April freezes. *Henry:* Nearly a failure, except plums. *Van Buren:* Fruit mostly destroyed by spring freezes. *Williamson:* Fruit seriously damaged. *Bradley:* Small crop of fruit. *Dickson:* Fruit-crops mostly destroyed. *Robertson:* Our few apples and peaches defective and falling off. *Grainger:* Fruits generally a failure.

West Virginia.—*Raleigh:* No apples or peaches. *Tucker:* Peaches and apples an entire failure, owing to late frosts. *Braxton:* None worthy of notice. *Cabell:* But few apples; no peaches. *Grant:* Almost an entire failure; a few late winter. *Jackson:* Apple-crop light on account of frost, and a portion now falling off; no peaches. *Marion:* Apples killed by frost in April. *Pocahontas:* Apples and peaches not worth speaking of. *Mineral:* Less than for many years. *Wood:* Killed. *Randolph:* Apples and peaches all killed; grapes, ditto. *Pendleton:* All kinds destroyed by late frost in April. *Nicholas:* All destroyed by frost in April. *Mercer:* Less than has been known for years. *Hancock:* Nearly a total failure. *Gilmer:* An entire failure. *Barbour:* Apples and peaches all killed; grapes, good prospect. *Harrison:* Apples and peaches an entire failure. *Mason:* Fruit of all descriptions almost an entire failure.

Kentucky.—*Trimble:* None, save blackberries; they are fine. *Jefferson:* None, save small fruits. *Boyle:* Apple and peach crops a perfect failure. *Clinton:* Apple and peach crops small, but look well. *Lincoln:* Apples and peaches an entire failure. *Spencer:* All destroyed by frost in April. *Scott:* Nearly all killed in April. *Graves:* Scarce, but looking well. *Gallatin:* A complete failure of all kinds. *Callaway:* Scarce and inferior. *Breckinridge:* Less than half a crop, but in good condition. *Anderson:*

A few apples, peaches, and grapes. *Owsley:* No fruit of any kind in the county. *Johnson:* A fine prospect for small fruits.

OHIO.—*Belmont:* All destroyed by severe frost in April. *Hocking:* A failure. *Morrow:* Very scarce. *Perry:* Some small fruit; otherwise, nearly a failure. *Sandusky:* Apples and peaches killed, and some of the peach-trees. *Coshocton:* Apples and peaches a failure; grapes, a full crop. *Jackson:* Almost an entire failure. *Medina:* Blackberries killed, but raspberries and strawberries in usual quantities. *Holmes:* All killed by late frosts. *Geauga:* The smallest crop of apples for twenty years; peaches, none at all; grapes, an average. *Fairfield:* Peach and apple crops almost a failure. *Delaware:* There has not been such a perfect failure in apples for fifty years. *Crawford:* No fruit. *Richland:* Apples and peaches an entire failure. *Athens:* Apples and peaches an entire failure; killed in April. *Seneca:* The poorest crop of apples grown for many years.

MICHIGAN.—*Kalamazoo:* Apples about half an average crop; grapes looking well; strawberries late, but a fair crop. *Van Buren:* Not over a half crop of apples; peaches killed—even the trees—except on lake shore. *Tuscola:* Prospect not encouraging. *Saint Joseph:* Very few apples; no peaches—trees nearly all killed. *Mason:* Apples, plums, and grapes nearly all lost by frost in June. *Wayne:* Apple-crop very light, and peach-crop a total failure. *Manistee:* What escaped the winter and June frosts is doing finely; peach-trees winter-killed. *Shiawassee:* Apple-crop light; peaches killed.

INDIANA.—*Floyd:* A total failure. *Clarke:* All killed by frosts in April. *Jennings:* Almost an entire failure. *Madison:* All killed. *Steuben:* A full crop of grapes. *Decatur:* All destroyed by frost in April. *Washington:* A very small crop of apples. Peaches have all fallen off. *Putnam:* But few apples and pears, and peaches all killed. Great many grape-vines winter-killed. *Noble:* No peaches and not many apples, and they are all falling off. *Martin:* Wet weather rotting the grapes. *Jasper:* Apples nearly a total failure. *Howard:* Peach and apple crop an entire failure. *Hendricks:* Apples, peaches, and pears an entire failure. *De Kalb:* Apples a failure, except Northern Spy and a few hardy varieties. *Cass:* Correspondent reports "three hundred bearing apple-trees, and not one bushel of apples." *Kosciusko:* All kinds a failure. *Tippecanoe:* All a failure, except a few varieties of small fruits. *Hamilton:* Perhaps a half crop of small fruits; otherwise an entire failure.

ILLINOIS.—*Clark:* Grapes very full; some rotting. *Madison:* Not promising. *Shelby:* Apples and peaches a failure; "will barely get a taste; grapes very fine. *Warren:* Heavy apple-bloom; but few varieties now show fruit. Peach-trees generally killed, and some grape-vines also. *White:* Peaches winter-killed. *Ogle:* A failure, except some kinds of small fruit. *DeWitt:* No apples or peaches worth mentioning; grapes never promised a better yield. *Bureau:* Apples not one-third of a crop. No peaches. Grapes, about half crop. *Boone:* Very few apples. *Carroll:* Apples, the poorest crop for years. Many grape-vines winter killed. *Livingston:* But few apples; no peaches or pears; small fruits abundant. *Massac:* Apple-crop small; peaches a failure. *Monroe:* Concord grapes full; Catawba rotting. *Moultrie:* No apples, peaches, or pears.

WISCONSIN.—*Waupaca:* Orchards dead; supposed to have been winter-killed; cranberries promise an abundant crop. *Juneau:* Apples an entire failure from late frost. *Columbia:* Apple-trees partially leaved out, but are now drying up. *Walworth:* A failure. *Dodge:* Nearly a failure. *Door:* Many of the apple-trees and nearly all plum-trees winter-killed.

MINNESOTA.—*Stearns:* Fruit-growing is still in its infancy in this county. Young apple-orchards are loaded with fruit. *Winona:* Few apple-trees in bearing, consequently but few apples.

IOWA.—*Lee:* A very short crop of apples, and peach-trees winter-killed. *Scott:* Apples very scarce; grapes and strawberries suffered by the cold winter. *Louisa:* Apples in good condition, but very scarce. *Howard:* Apples only half a crop; small fruits an average. *Hardin:* Better than last year, but fruit-growers discouraged. *Decatur:* Apples a full crop; peaches a failure.

MISSOURI.—*Franklin:* Fruit below average in quantity and quality. *Daviess:* Apples few but good. *Lincoln:* Very few apples and peaches. *Maries:* Fruit badly injured by storms. *Stoddard:* Apples few but good; peaches half crop. *Jasper:* Apples and peaches half crops. *Shelby:* Grapes either rotting or scabbed by wet and hot sun.

KANSAS.—*Clay:* Peaches nearly all killed. *Wabaunsee:* All bearing peach-trees killed last summer and fall by hot winds and grasshoppers. *Franklin:* Grapes suffered badly from grasshoppers; some vineyards and orchards entirely destroyed. *Shawnee:* Apples and peaches almost a failure. *Cloud:* All destroyed by grasshoppers, cold winter, and flat-head borers. *Anderson:* Nearly all sorts of fruit ruined by the grasshoppers. *Lyon:* Apples but 5 per cent. of last year's yield. *Leavenworth:* Only a few apples, and they injured by grasshoppers. *Douglass:* Apples, peaches, and grapes all gone. *Osage:* Peach-trees mostly dead; apples almost worthless from ravages of grasshoppers. *Mitchell:* Not so much as last year, although there are many new bearing-trees.

NEBRASKA.—*Pawnee:* Apples not generally bearing; grapes and peaches taken by

grasshoppers. *Gage:* No fruit of any kind. *Otoe:* Grasshoppers took the grapes and strawberries. *Johnson:* There will be a few peaches; grape-vines generally stripped by the grasshoppers.

CALIFORNIA.—*Sacramento:* Fruit-trees of all sorts bloomed full, but were swept by April frosts. *Nevada:* Fruit, especially early varieties, cut considerably short by spring frosts; apples and grapes in abundance. *Contra Costa:* Apples scarce; peaches a half crop; grapes excellent. *Amador:* Apples and peaches in good condition. *San Bernardino:* Spring frosts very disastrous.

OREGON.—*Clackamas:* Strawberries fine; cold rains caused much fruit to drop. *Tillamook:* Apples almost a failure; grapes a third of a crop. *Columbia:* Caterpillars playing havoc with fruit-trees on the Columbia bottoms. *Grant:* Fruit mostly frost-killed. *Linn:* Fruit-trees largely winter-killed.

THE TERRITORIES.—*Choctaw Nation, Indian Territory:* Fruit-crops unusually good. *Box Elder, Utah:* Fruit frosted. *Salt Lake, Utah:* Moths threatening apples and pears. *Kane, Utah:* Small fruit unusually fine; apples abundant.

HAY AND PASTURES.

Timothy is in maximum condition in Kentucky, 110. Only five other States are above average, viz: Texas, 106; Oregon, 105; Indiana, 104; Maine, 101; and Iowa, 101. Its minimum condition is found in New Jersey, 67. All the New England States except Maine, the Middle, South Atlantic, and Gulf States are below average. In some localities drought is stated as very severe, utterly drying up the sod, while in others army-worms and other insects have been more or less destructive. The same causes reduced the crops in the inland Southern States and north of the Ohio River. In the Northwest the grasshopper was quite injurious. On the Pacific coast this crop is replaced in California by other grasses. In Oregon it was favored by conditions generally favorable to vegetation.

Clover is not quite so good as timothy. The maximum condition was in Arkansas, 108. It was full average or above in South Carolina, 105; Oregon, 103; Maine, 102; and Mississippi, 100. Its minimum condition was in New Jersey, 57. It was in many counties badly winter-killed. Drought and worms were also injurious, cutting down the crop very seriously. In many cases old clover was entirely destroyed by its varied disasters.

Pasture shows a considerably higher average than mown grass. The maximum condition was in Illinois, 110; the other States above average were Arkansas and Nebraska, 109; Maine and Indiana, 108; Oregon and Missouri, 107; Wisconsin and Kansas, 106; Florida, 105; Mississippi, Kentucky, Ohio, and Minnesota, 103; Tennessee, 101. The minimum was in California, 65. In some counties of the latter State pasture was nearly ruined by late rains. Our correspondent in Amador explains the peculiar character of California pasturage. The ripe grass, parched in the hot summer sun, lies like hay upon the ground, well cured, and perfectly preserved for cattle to feed upon until the winter rains rot it. In the present case late spring rains have mostly spoiled it, destroying the provender for summer and fall feeding. In Iron County, Utah, grasses have been destroyed by the immense number of rabbits on the range. At least 5,000 of these animals had been destroyed by hunting-parties organized for their destruction.

MAINE.—*Aroostook:* Hay prospect never better; pastures superior. *Cumberland:* Very favorable; May and June have repaired the injuries of winter. *Waldo:* Hay-crop promising.

NEW HAMPSHIRE.—*Hillsborough:* Grass-crops fair. *Rockingham:* Injured by drought in May.

VERMONT.—*Franklin:* Hay short; badly winter-killed. *Orleans:* Grass-crops thickening up; considerably winter-killed on western slopes. *Windsor:* Improving fast. *Grand Isle:* Timothy thinned out by hard winter and dry spring. *Addison:* Not rain

enough for hay. *Lamoille:* Winter-killing but partially retrieved; crop light. *Chittenden:* Hay-crop from two-thirds to three-fourths of last year.

MASSACHUSETTS.—*Worcester:* Hay shortened by drought.

CONNECTICUT.—*Litchfield:* Lands newly seeded with either clover or timothy are tolerable, but the grass-crops generally are short.

NEW YORK.—*Oneida:* Grass shortened by drought. *Steuben:* Grasses injured, and pastures very short; hay light. *Columbia:* Grass-crops light. *Chenango:* Quite a falling off from last year in grass-crops, but improving. *Delaware:* Meadows never so near a failure. *Schoharie:* Hay light on old meadows. *Livingston:* Grass growing finely. *Dutchess:* Drought very severe. *Genesee:* Clover badly winter-killed. *Orange:* Shortest hay-crop for years. *Ontario:* Meadows short. *Seneca:* Clover light; timothy meadows considerably winter-killed and mixed with other grasses. *Sullivan:* Many meadows reduced to pasture by the drought. *Franklin:* Grass improved by late rains. *Erie:* Hay-crop very good; pasture much improved.

NEW JERSEY.—*Warren:* Pastures, clover and timothy uncommonly short. *Burlington:* Lightest crop of hay ever known. *Hudson:* Injured by extreme winter weather. *Mercer:* Hay and pastures very short.

PENNSYLVANIA.—*Northampton:* Crops short. *Cambria:* Grass rapidly improving. *Cumberland:* Short. *Bucks:* Hay lighter than for years; late pasture poor. *Armstrong:* Pasture and clover considerably winter-killed. *Clinton:* Pasture and hay short. *Lancaster:* Hay short. *Butler:* Hay injured by frost. *Franklin:* Improved hay prospect. *Montgomery:* Timothy and natural grasses improving. *Wayne:* Grass very poor. *Indiana:* Clover and timothy a half crop. *Montour:* Very little clover hay; timothy short; pasture poor; good rains of late. *Tioga:* Timothy meadows injured by June frosts. *Chester:* Severe drought; wells and springs going dry.

MARYLAND.—*Carroll:* Grass very short. *Dorchester:* Grass-crop good. *Harford:* Hay-crop one of the lightest yet known. *Montgomery:* Hay half a crop. *Calvert:* Pasture better; clover very inferior. *Cecil:* Hay below average.

VIRGINIA.—*Tazewell:* Grass-crops shortened by drought in May. *Powhatan:* Drought; pastures almost bare. *Bland:* Improved by late rains. *Spottsylvania:* Pasture good; clover and timothy shortened by drought. *Rappahannock:* Pasture and grasses short through drought. *Orange:* Pastures good, but clover and timothy were injured by the hard winter and spring. *Henrico:* Clover reduced half and timothy a third by cold weather. *Craig:* Great improvement; rain. *Halifax:* Pastures greatly improved; clover injured by frost in April and drought in May. *Mecklenburgh:* Clover frosted in spring. *Wythe:* Pastures and meadows short. *Charles City:* Clover shortened by cold weather; timothy good, what little is raised. *Elizabeth City:* Pasture nearly ruined by drought. *Grayson:* Improved by rains. *Fairfax:* Brought out wonderfully by late rains. *Highland:* Rains have improved grass-crops. *Roanoke:* Failure in all grass-crops. *Goochland:* Hay-crop ruined, especially clover. *Nansemond:* Dried up. *Montgomery:* Orchard-grass increasing; seed cheap, and its fattening power as good as that of any other grass sown.

NORTH CAROLINA.—*Gaston:* Crab-grass not so troublesome as usual, enabling farmers to work their lands better. *Henderson:* Clover almost frozen out. *Beaufort:* First crop almost a failure; frozen out; second will be better. *Mitchell:* Alsike clover a decided improvement over the red. *Alamance:* Natural meadows fine; cultivated grasses average. *Davidson:* Grasses injured by cold. *Edgecombe:* Grass-crops injured by drought. *Hertford:* Pastures dry. *Haywood:* Season favorable for clover and other grasses. *Buncombe:* Pastures and meadows good. *Clay:* Alsike clover, from the Department, yielded 8¾ tons of hay per acre. There will be a great demand for seed next spring.

GEORGIA.—*Forsyth:* Clover doing well. *Towns:* Clover promises to be a success. *Hall:* Pasture and clover shortened by drought. *Upson:* Pastures good. *Cobb:* Pasture failing.

FLORIDA.—*Putnam:* Guinea-grass does well on good land; three crops per annum.

ALABAMA.—*Chambers:* More attention to grasses; timothy and lucern attracting attention. *Calhoun:* Too dry. *Marshall:* Pasture good on the range.

MISSISSIPPI.—*Greene:* Clover fails on our sandy soils. *Winston:* Kentucky blue-grass, from the Department, does well.

TEXAS.—*Collin:* Pasture unusually weedy. *Goliad:* The native (*Panicum fasciculatum*) is preferred to any other grass, and its propagation is rapidly increasing. *Kaufman:* Clover almost died out. *Hunt:* Pasture shortened by drought and grasshoppers.

ARKANSAS.—*Independence:* Increased attention to grasses.

TENNESSEE.—*Lincoln:* Season favorable to spring clover. *Carter:* Clover damaged by drought, but recovering from late and abundant rains. *Greene:* Clover poor; timothy healthy; army-worm destroyed some meadows. *Monroe:* Meadows greatly improved by late showers. *Johnson:* Meadows improved by late rains. *Wilson:* Pasture never better. *Obion:* Meadows ruined by army-worms. *Blount:* Pastures dry; clover almost a failure. *Montgomery:* Hay of all kinds heavy. *Robertson:* Spring clover looks well. *Giles:* Grass-crops harvested above average.

WEST VIRGINIA.—*Braxton:* Short. *Cabell:* Much below an average. *Jackson:* Short from early drought. *Marion:* Many meadows not worth cutting; pastures short. *Pocahontas:* Short, especially timothy. *Pendleton:* Pastures and meadows reviving, but too late to make full crop of hay. *Mercer:* Hay light; pastures short. *Hancock:* Native grasses thrifty; clover and timothy below, but general crops an average. *Barbour:* Injured by drought. *Monroe:* Very fine; never better. *Preston:* Greatly improved. *Harrison:* Pastures good; meadows light. *Mason:* Pastures improving rapidly.

KENTUCKY.—*Hardin:* Pasture shorter than for years; clover winter-killed; farmers depend almost entirely on clover for grazing. *Lincoln:* Hay short, but pasture fine and abundant. *Pendleton:* Promising. *Metcalfe:* Hay and pasturage good. *Logan:* Clover having been destroyed by worms and winter, farmers sowed wheat-lands with clover and timothy in February and March, producing a stand the like of which "has not been seen in a generation." *Gallatin:* Very fine and season favorable. *Callaway:* Clover winter-killed. *Cumberland:* Clover and timothy looking fine.

OHIO.—*Ross:* Shortened by freezing in April; meadows being pastured. *Trumbull:* Old meadows poor. *Morrow:* Improving; clover mostly killed. *Perry:* Growing rapidly. *Coshocton:* Up to a full average. *Holmes:* Clover badly frozen; not over half crop. *Harrison:* Below an average, owing to drought. *Hancock:* Very abundant, except clover, which was winter-killed. *Delaware:* Clover winter-killed; timothy quite good; pastures fine. *Van Wert:* Clover killed; less than an average. *Henry:* Clover heavy, down and rotting, too wet to cut; timothy never better.

MICHIGAN.—*Kalamazoo:* Pasturage excellent thus far. *Menomonee:* Looks badly. *Wexford:* Dry weather; meadows very poor. *Delta:* Injured by hard frost in June. *Branch:* Very heavy, but weather unfavorable for making hay. *Hillsdale:* Not promising; clover almost run out. *Mecosta:* Damaged by frost. *Lake:* Damaged by frost in June. *Grand Traverse:* Suffering from drought. *Wayne:* Shortened by drought. *Manistee:* In good condition until frosts of June 12 and 13. *Livingston:* Clover winter-killed. *Shiawassee:* Pasture good, but beginning to suffer from drought. *Oakland:* Hay-crop light.

INDIANA.—*Grant* Pasture was never better. *Clarke:* Pastures very fine. *Jennings:* Very fine. *Franklin:* Timothy good, and is our only dependence for hay. *Perry:* Extra crop of grass and clover. *Steuben:* Clover lodged, and too wet to cut. *Warren:* Pastures look well; timothy was never better. *Whitley:* Timothy meadows never looked better; have more pasture than can be used. *Washington:* Timothy looks well, but breadth not large. *Pike:* Pastures good. *Marshall:* Hay in great danger from continued rains; crop an average. *Crawford:* Winter-killed; season favorable for what remained. *Cass:* Badly winter-killed. *Scott:* Badly winter-killed. *Lake:* Timothy thin on the ground; clover badly winter-killed.

ILLINOIS.—*Pike:* Did not make a strong growth on account of early drought; pasture improving. *Clark:* More than an average. *Madison:* Has suffered to some extent by army-worm. *Menard:* Clover damaged to some extent by hard winter. *Vermillion:* Pastures growing finely, but timothy and clover below an average on account of drought, grub-worms, and winter. *Shelby:* Clover rotting on the ground; timothy never better; too wet for hay-making. *De Kalb:* Will not be an average. *White:* Clover winter-killed. *Putnam:* Clover all winter-killed. *Randolph:* Timothy badly injured by the army-worm. *Cook:* Clover badly killed out. *Boone:* Winter-killed; scarcely any in the county. *Sangamon:* Pastures improving; old clover killed; young growth doing well; timothy somewhat injured by the army-worm. *Livingston:* Pastures very good; meadows fair. *Mason:* Timothy light; old clover killed; young clover doing well. *Montgomery:* Hay will be abundant. *Massac:* Clover badly winter-killed; timothy fine. *Monroe:* Timothy is the standard hay here; grew finely, but has been injured by the army-worm. *Moultrie:* Timothy badly down. *Fayette:* Grass and pasture splendid.

WISCONSIN.—*Waupaca:* Never looked better. *Walworth:* Crop heavy; pasturage never better; hay-making difficult on account of frequent rains. *Green:* Hay and pasture never better. *Saint Croix:* Injured by early drought, but improving with recent rains; cannot come up to an average.

MINNESOTA.—*Steele:* Wild-grass meadows have only an average growth. *Sibley:* Timothy and pastures badly injured by grasshoppers.

IOWA.—*Franklin:* Clover badly winter-killed. *Lee:* Clover nearly all killed. *Scott:* Clover and timothy badly winter-killed. *Louisa:* Hay-crop will be very light. *Howard:* Pasturage, both wild and tame, better than usual; low lands, being submerged, give poor promise for wild hay. *Hardin:* All kinds flourishing. *Madison:* A large part of clover winter-killed.

MISSOURI.—*Cass:* Prairie-grass fine, but immense herds of cattle have been imported to eat it down; but little hay will be cut. *Howard:* Timothy eaten by army-worms, and clover winter-killed. *Saint Genevieve:* Timothy badly injured by army-worms. *Saint Clair:* Millet culture increasing. *Madison:* Timothy almost destroyed by army-worms. *Jasper:* Alfalfa a success. *Dallas:* Much chess in timothy. *Cole:* Pasture

splendid. *Clay:* Pastures destroyed by grasshoppers. *Carroll:* Clover badly winter-killed, but coming on from seed; fine weather has brought timothy up to average. *Shelby:* Pasture good, except in flat land. *Newton:* Grass abundant.

KANSAS.—*Washington:* Millet promising. *Jefferson:* Clover and timothy swept by grasshoppers. *Ellis:* Millet and Hungarian grass extensively raised and looks well. *Crawford:* Cattle doing well on the range. *Cowley:* Pasture good; no timothy or clover grown here. *Osage:* Clover all winter-killed; timothy badly damaged.

NEBRASKA.—*Richardson:* Grasshoppers took everything green. *Webster:* Pastures fine. *Otoe:* Timothy and clover eaten by grasshoppers. *Johnson:* Pasture excellent; timothy injured by grasshoppers.

CALIFORNIA.—*Nevada:* Hay-crop fair, but injured by heavy rains in the stack; pasture nearly ruined. Farmers are seeding irrigated land with clover. *Alameda:* Hay injured in the field by rain. *Contra Costa:* Pastures scanty; injured by late unseasonable rains. *Amador:* The value of our pasturage depends upon the ripe grass, which lies upon the ground like hay until the winter-rains rot it. A late rain has nearly destroyed the feed by washing this hay; pasture very short.

OREGON.—*Clackamas:* Pastures excellent, also clover and timothy. *Tillamook:* Pasture and grasses never better. *Columbia:* Pastures never better. *Grant:* Growth of grass favored by abundant rains.

THE TERRITORIES.—*Iron, Utah:* Grass very poor on account of drought and the immense numbers of rabbits on the range. At least 5,000 rabbits have been killed by hunting-parties, and still they are destroying our crops. *Yankton, Dakota:* Grass of rank growth. *Clalam, Washington:* Timothy attacked by army-worms, which caused our farmers to commence hay-making sooner than they intended.

Table showing the condition of the crops, &c.—Continued.

States.	BEANS.		SORGHUM.		SUGAR-CANE, (*not Sorghum.*)		TOBACCO.		COTTON.	WOOL.	APPLES.	PEACHES.	GRAPES.	STRAWBERRIES.
	Acreage compared with last year.	Average condition July 1st.	Acreage compared with last year.	Average condition July 1st.	Acreage compared with last year.	Average condition July 1st.	Acreage compared with last year.	Average condition July 1st.	Average condition July 1st.	Am't of wool, *in hundredths*, compared with last year.	Average condition July 1st.	Average condition July 1st.	Average condition July 1st.	Product compared with last year.
Maine	102	97	.....	.....	.....	.....	.....	.....	.....	101	80	.....	97	103
New Hampshire	101	98	.....	.....	.....	.....	70	90	.....	98	82	94	92	103
Vermont	97	98	.....	.....	.....	.....	.....	.....	.....	97	102	.....	97	106
Massachusetts	99	100	.....	.....	.....	.....	75	92	.....	97	72	107	92	105
Rhode Island	100	100	.....	.....	.....	.....	.....	.....	.....	90	75	160	96	100
Connecticut	100	99	.....	.....	.....	.....	98	90	.....	102	56	103	90	96
New York	99	94	.....	.....	.....	.....	100	93	.....	96	71	75	84	88
New Jersey	90	100	.....	.....	.....	.....	.....	.....	.....	101	61	103	96	92
Pennsylvania	98	94	90	82	.....	.....	100	81	.....	98	63	61	97	94
Delaware	110	100	90	100	.....	.....	.....	.....	.....	100	62	97	100	102
Maryland	99	99	91	96	.....	.....	104	101	.....	100	90	99	104	98
Virginia	97	96	90	85	.....	.....	130	97	96	96	50	34	97	77
North Carolina	100	93	93	94	.....	.....	133	102	95	98	53	21	93	89
South Carolina	101	85	100	100	97	97	107	105	99	101	53	48	83	88
Georgia	100	98	111	96	101	96	95	92	97	99	77	80	99	94
Florida	136	100	.....	.....	86	90	123	103	101	99	100	71	97	97
Alabama	95	92	103	97	94	92	90	87	102	97	73	77	91	91
Mississippi	98	102	120	108	108	103	116	102	103	104	99	113	99	96
Louisiana	.....	.....	.....	.....	98	100	93	88	105	101	98	101	102	96
Texas	103	97	109	97	95	90	100	94	93	103	101	100	108	94
Arkansas	103	102	136	101	.....	.....	110	102	104	107	98	100	109	103
Tennessee	104	104	100	99	.....	.....	303	106	109	99	46	28	93	86
West Virginia	102	99	95	95	.....	.....	131	97	.....	102	33	31	85	90
Kentucky	106	104	96	97	.....	.....	323	134	.....	100	50	38	87	69
Ohio	102	102	89	94	.....	.....	125	98	.....	95	33	17	78	75
Michigan	103	99	.....	.....	.....	.....	.....	.....	.....	99	64	18	82	96
Indiana	111	100	105	96	.....	.....	149	102	.....	99	31	25	88	92
Illinois	97	99	94	95	.....	.....	156	95	.....	97	38	40	89	89
Wisconsin	105	97	81	95	.....	.....	83	90	.....	108	48	.....	92	103
Minnesota	125	98	131	90	.....	.....	.....	.....	.....	111	89	.....	101	91
Iowa	99	96	94	92	.....	.....	.....	.....	.....	101	77	.....	98	104
Missouri	105	97	97	98	.....	.....	160	102	108	97	74	60	92	78
Kansas	103	103	110	102	.....	.....	89	86	.....	123	50	61	59	57
Nebraska	113	94	106	95	.....	.....	.....	.....	.....	131	61	21	54	65
California	95	89	.....	.....	.....	.....	.....	.....	.....	111	75	50	97	80
Oregon	92	90	.....	.....	.....	.....	.....	.....	.....	110	78	70	79	92

Table showing the condition of the crops, &c., on the first day of July, 1875.

States.	CORN.		WHEAT.		RYE.		OATS.	BARLEY.		PASTURE.	CLOVER.	TIMOTHY.	POTATOES, (*Solanum tuberosum.*)		POTATOES, (*Batatas edulis,*) SWEET.	
	Acreage compared with last year.	Average condition July 1st.	Average condition of winter-wheat July 1st.	Average condition of spring-wheat July 1st.	Average condition of winter-rye July 1st.	Average condition of spring-rye July 1st.	Average condition July 1st.	Average condition of winter-barley July 1st.	Average condition of spring-barley July 1st.	Average condition July 1st.	Average condition July 1st.	Average condition July 1st.	Acreage compared with last year.	Average condition July 1st.	Acreage compared with last year.	Average condition July 1st.
Maine	94	89	91	101	93	100	103	.....	100	108	102	101	103	99	.....	.....
New Hampshire	102	93	98	99	99	101	100	.....	98	97	94	92	99	96	.....	.....
Vermont	102	94	70	100	101	101	101	.....	99	98	90	85	100	99	.....	.....
Massachusetts	91	92	.....	.....	99	91	102	100	99	93	91	73	93	93	.....	.....
Rhode Island	89	82	.....	.....	95	100	95	.....	92	85	70	72	85	75	.....	.....
Connecticut	107	94	87	.....	88	.....	97	97	90	91	71	77	98	92	.....	.....
New York	100	91	45	91	77	90	94	.....	97	91	77	81	101	96	.....	.....
New Jersey	101	96	63	.....	90	.....	82	.....	.....	72	57	67	87	94	102	99
Pennsylvania	103	92	78	88	90	97	93	94	89	83	79	81	96	94	104	94
Delaware	102	97	93	.....	100	.....	85	.....	.....	77	87	80	78	64	95	95
Maryland	103	99	76	.....	92	.....	85	.....	.....	83	75	77	82	80	105	98
Virginia	103	95	83	.....	94	.....	74	.....	.....	81	73	71	99	95	100	95
North Carolina	101	98	102	.....	96	.....	97	.....	.....	98	96	97	105	98	100	99
South Carolina	104	99	95	.....	100	99	95	102	100	98	105	.....	99	95	101	99
Georgia	104	97	108	.....	99	.....	94	100	.....	96	94	83	90	95	103	95
Florida	100	91	.....	.....	100	.....	101	.....	.....	105	.....	.....	89	99	101	95
Alabama	107	98	106	.....	103	.....	96	.....	.....	94	93	88	98	86	95	88
Mississippi	115	112	113	.....	101	.....	108	.....	.....	103	100	.....	106	104	112	109
Louisiana	113	104	.....	.....	.....	.....	104	.....	.....	99	.....	.....	107	100	101	99
Texas	111	100	135	.....	102	.....	105	111	.....	99	.....	.....	114	112	103	93
Arkansas	123	109	117	.....	119	.....	116	.....	.....	109	108	106	127	125	107	106
Tennessee	112	109	102	.....	103	.....	92	97	.....	101	91	92	112	104	101	101
West Virginia	112	105	64	.....	86	.....	97	.....	.....	96	88	89	102	99	104	97
Kentucky	105	109	82	.....	95	.....	105	92	.....	103	93	110	103	116	104	100
Ohio	106	95	71	90	89	.....	103	72	100	103	67	92	108	108	102	101
Michigan	111	94	79	95	93	100	96	108	102	92	86	85	112	101	.....	.....
Indiana	108	94	69	74	85	.....	110	79	93	108	88	104	135	110	100	109
Illinois	106	91	76	96	97	97	103	94	97	110	85	97	116	118	103	99
Wisconsin	115	82	97	97	100	100	104	97	88	106	94	99	104	102	.....	.....
Minnesota	117	85	89	102	91	103	106	.....	107	103	98	98	104	107	.....	.....
Iowa	111	87	95	99	97	109	105	102	102	109	96	101	107	106	106	99
Missouri	112	103	72	72	96	88	112	94	86	107	98	96	106	111	106	100
Kansas	123	95	91	85	96	.....	86	.....	85	106	66	74	88	98	90	91
Nebraska	160	84	.....	71	103	91	90	.....	89	109	.....	81	122	100	85	80
California	99	93	76	55	78	.....	84	82	86	65	95	.....	87	85	105	84
Oregon	100	89	102	106	98	99	103	99	101	107	103	105	105	96	.....	.....

EXTRACTS FROM CORRESPONDENCE—FARMING PROSPECTS.

York, Maine.—Labor available; farmers hopeful.

Chenango, New York.—Since the late warm rains everything seems to jump rather than grow.

Perquimans, North Carolina.—Cotton-planters in low spirits.

Davidson, North Carolina.—Rapid tendency to concentrate on fewer acres.

Haywood, North Carolina.—This county is paying increased attention to grass-crops; a cheese-factory has been built and is doing well.

Edgefield, South Carolina.—There being no elections this year, there is much harmony among all classes; labor quite satisfactory.

Clayton, Georgia.—Our prospect of living this year is rather encouraging. Our people will raise their own corn, and will not require an importation from Tennessee and the West.

Taliaferro, Georgia.—Crop-prospects never better since 1865.

Fayette, Georgia.—Crops, generally, are as good as I have seen in many years.

Douglas, Georgia.—Farmers are in much better condition than last year, not having contracted so many debts. The repeal of the lien-law has compelled greater economy.

Glynn, Georgia.—Rice-crop promising. Market-gardening assuming the proportions of a regular business.

Laurens, Georgia.—More attention to provision-crops, especially wheat. The credit system is on the decline, much to the benefit of all parties.

Richmond, Georgia: Labor plenty and much improved owing to the erection of public works.

Madison, Florida.—Labor improving.

Jefferson, Florida.—Labor improving. Farmers do but little business with commission-merchants.

Choctaw, Alabama.—Farmers raising more cereals and using more economy; buying less on credit; working more, thinking more, and prospering more.

Macon, Alabama.—Crops unusually diversified and cultivated at lower cost; planters not so much in debt; negroes working better and better satisfied.

Amite, Mississippi.—More corn planted and less cotton; better culture.

Wayne, Mississippi.—The colored people are working more steadily than heretofore, and more of them are engaged in planting on account of the decline of the lumber business.

Lauderdale, Mississippi.—The most favorable season I have ever known here; crop-prospects the best for ten years.

Lee, Mississippi.—Such a growing season was never known here; no drought or excess of rain, except in a few places.

Wilkinson, Mississippi.—The best report I have ever been permitted to make. Crops late starting, but the very favorable weather of May and June enabled farmers to push work, and get everything in good condition, while the crops have been growing finely.

Marion, Mississippi.—Most favorable season for many years; crops all in fine condition.

Covington, Mississippi.—Fine seasons; laborers have worked better than ever before.

Iberia, Louisiana.—Excellent season; all crops in a most flourishing condition.

Union, Louisiana.—This year has been one of the most favorable to the farmer; unusually large acreage in grain-crops.

Morehouse, Louisiana.—Hands working well and crops clean.

Washington, Texas.—Money scarce; interest from 2½ to 3 per cent. a month, with best real estate security.

Fannin, Texas.—A very large surplus of wheat, probably a million and a half of bushels, in Fannin and Grayson Counties, to which the exorbitant charges will forbid shipment.

Limestone, Texas.—Crops of nearly every kind present a flattering appearance.

Lamar, Texas.—Best crop-prospect for years.

Garland, Arkansas.—In our start this year we feared we would make nothing on account of the cold, but we have had the best season ever known here; great rejoicing among farmers.

Cross, Arkansas.—Prospects of a bountiful yield of all crops.

Crittenden, Arkansas.—Crop-prospects better than for years.

Dorsey, Arkansas.—Season as good as heart could desire.

Ouachita, Arkansas.—All crops fine; best of prospects for the year.

Izard, Arkansas.—Thrashing has commenced, which closes the terrible destitution caused by the failure of last year's crops. Confidence is at last restored, and a more encouraging outlook for the farmer than since 1860. The increased area in cereals and decreased area in cotton are already showing benign effects.

Calhoun, Arkansas.—Best crop prospects for twenty-five years.

Giles, Tennessee.—We never worked harder, cultivated more thoroughly, nor had better prospects. Tennessee has now a dog-law; fewer lambs are killed and more dog-skins go to the tan-yard.

Obion, Tennessee.—Crops never more prosperous.

Raleigh, West Virginia.—Farmers generally in good spirits.

Cabell, West Virginia.—Vegetation growing rapidly.

Mineral, West Virginia.—Poorest small-grain and fruit-crops for many years.

Pendleton, West Virginia.—Prospects greatly improved.

Preston, West Virginia.—Good growing season.

Laurel, Kentucky.—Seasonable weather; crops look well.

Jefferson, Kentucky.—Weather favorable to all crops.

Daviess, Kentucky.—Farmers went to work with more than usual energy, but crops injured by heavy rains.

Todd, Kentucky.—Heavy flooding rains; farmers estimate their damages at hundreds of thousands of dollars.

Christian, Kentucky.—Finest crops for many years.

Scott, Kentucky.—All crops promising.

Hopkins, Kentucky.—Injurious rains.

Grayson, Kentucky.—Destructive storms.

Graves, Kentucky.—Crops look remarkably well.

Gallatin, Kentucky.—Too much wet.

Monroe, Kentucky.—All crops doing well.

Belmont, Ohio.—Prospects unpromising.

Williams, Ohio.—Crops doing well.

Perry, Ohio.—Crops doing well.

Washington, Ohio.—Good growing weather; prospects improving.

Hardin, Ohio.—Growing finely.

Harrison, Ohio.—Crops generally promising.

Geauga, Ohio.—Prospects encouraging.

Menomonee, Michigan.—Crops backward and unpromising.
Delta, Michigan.—Crops doing well.
Mason, Michigan.—Injurious frosts.
Iosco, Michigan.—Crops injured by frost, but coming on well now.
Ionia, Michigan.—Injurious drought.
Grand Traverse, Michigan.—Damaging frost.
Calhoun, Michigan.—Auspicious for crops.
Ottawa, Michigan.—Rain at last; prospect improving.
Montcalm, Michigan.—Very dry; no rain for five weeks.
Howard, Indiana.—Cereals damaged by rain and the wheat-midge.
Tippecanoe, Indiana.—Farming-interests prospering.
Clay, Indiana.—Damaging rains.
Hamilton, Indiana.—Bad season for farmers; too wet.
Lake, Indiana.—Too wet for cultivation.
Brown, Indiana.—Heavy rains and high waters.
Clarke, Indiana.—Plenty of rain; not too much.
Jennings, Indiana.—Wet season; crops fine.
Spencer, Indiana.—Excessive rain.
Madison, Indiana.—Farmers discouraged.
Perry, Indiana.—Best season for five years.
Orange, Indiana.—Crop-prospects mostly favorable.
Ripley, Indiana.—Crops growing rapidly.
Morgan, Indiana.—Excessive rain.
Lawrence, Indiana.—Injurious rains.
Knox, Indiana.—Rains damaging grain in the shock.
De Witt, Illinois.—Injurious rains.
Carroll, Illinois.—Vegetation rapid.
Cass, Illinois.—Excessive rains.
Morgan, Illinois.—Too much rain; fields deluged.
Piatt, Illinois.—Vegetation luxuriant.
Moultrie, Illinois.—Too wet for harvesters; using cradles.
Cumberland, Illinois.—Rain injuring harvesting.
Winnebago, Illinois.—Growth large and rapid.
Williamson, Illinois.—Excessive rains.
Warren, Illinois.—Very rainy.
Saint Clair, Illinois.—Too wet.
Ogle, Illinois.—Crops generally promising.
Logan, Illinois.—Too much rain for cultivation.
Jersey, Illinois.—Too wet for insects.
Hancock, Illinois.—Destructive hail-storms.
Grundy, Illinois.—Destructive hail-storms.
Effingham, Illinois.—Too wet for harvesters.
Edwards, Illinois.—Nearly flooded out.
Clark, Illinois.—Wool-growing driven off by dogs.
Clinton, Illinois.—Excessive rains.
Menard, Illinois.—Excessive rains; crops full of grass and weeds.
Vermillion, Illinois.—Exceedingly wet.
Pope, Illinois.—Too much rain.
Shelby, Illinois.—Wettest season for thirteen years.
Waupaca, Wisconsin.—Grain and grass never looked better.
Trempealeau, Wisconsin.—All crops look well except corn.
Douglas, Wisconsin.—But little growth yet.
Milwaukee, Wisconsin.—Crops coming out finely.
Crawford, Wisconsin.—Large crops anticipated.
Chippewa, Minnesota.—The prospect was never better for a large crop of small grain.

Waseca, Minnesota.—Expecting great crops.
Stevens, Minnesota.—Prospects charming.
Steele, Minnesota.—Crops promising.
Swift, Minnesota.—Crops generally good, except corn.
Jones, Iowa.—Prospect not encouraging.
Des Moines, Iowa.—Not very flattering.
Grundy, Iowa.—Two weeks more of rain would be fatal.
Cass, Iowa.—Prospect of small grain unprecedented.
Johnson, Iowa.—All crops in splendid condition.
Ozark, Missouri.—No impediment in farming this year; no chinches or grasshoppers; crops mostly in fine condition.
Greene, Missouri.—The lengthened visage of the farmer broadens.
Camden, Missouri.—Agricultural outlook flattering; wool-raising and tobacco-raising rapidly increasing.
Johnson, Missouri.—The grasshopper scourge is terrible, reducing the best farmers to absolute want. Stock has been driven to more favored sections to graze. Not a particle of hay or straw, except prairie hay, can be had for fodder for the coming winter. Farmers are putting in an increased acreage of corn-fodder. Clover and timothy meadows killed dead; grapes and flax all destroyed. Not a bunch of lettuce, a carrot, a cucumber, a pumpkin, or other vegetable is left. The rich and fruitful county of Johnson, second to none in the State, is ruined.
Randolph, Missouri.—Except wheat, there was never known a better crop prospect.
Perry, Missouri.—Everything looks well.
Clay, Missouri.—Crops destroyed by grasshoppers. We can scarcely realize the humiliation of our rich and fertile county; a degree of destitution unknown before.
Wayne, Missouri.—If it continues seasonable, we will raise more than in the last three years.
Pemiscot, Missouri.—Finest prospects for abundant crops for many years.
Jackson, Kansas.—Farmers seeing hard times for eatables, except flour; grasshoppers took the gardens.
Furnas, Nebraska.—Poor farming has caused the south slopes to dry out, reducing the total condition of the crop. Good farming on the north slopes shows good average condition.
Dixon, Nebraska.—Crops all looking very finely; promise an abundant yield, especially wheat.
Sonoma, California.—Taken together, crop prospects are more than fair.
Sacramento, California.—On the 6th of April we had a severe freeze, which killed vegetable and fruit crops, and severely injured grain-crops; that, together with drought and north winds, has been disastrous to the farming interests.

ENTOMOLOGICAL RECORD.

By Townend Glover, Entomologist.

Insect injuries.—A few very destructive species of insects are noted by our correspondents as ravaging the crops in different parts of the country. Of these the most prominent are the *grasshoppers*, (*Caloptenus sp.*) The well-known species *C. femur-rubrum*, or red-legged

grasshopper, is reported at various isolated localities in the Eastern States and in the Mississippi Valley. In Windsor, Vermont, Bedford, Pennsylvania, Hocking, Ohio, and Menomonee, Michigan, they had appeared, but no injuries were noted. They were more or less destructive in Trousdale, Tennessee, and in Harrison, Ohio. In Livingston, Kentucky, they were reported as destroying tobacco-plants in old ground. A farmer in Jefferson, West Virginia, succeeded in destroying thirty bushels of these pests by attaching a seine to the rear of a horse-rake, and driving through a field thickly covered with them.

A species, not easy to identify from the description given by our correspondents, injured corn on stiff swamp-lands in Clarke, Alabama. A great cloud of these insects was seen moving eastward over the south part of Autauga, Alabama. A grasshopper, very different from any before seen, was noted in Outagamie, Wisconsin.

The *C. Spretus*, or migratory western grasshopper, appeared in several counties of Minnesota. Blue Earth offered a bounty for their destruction. About 20,000 bushels were collected and destroyed, at a cost of $32,000, without perceptibly diminishing their numbers. They were very destructive in Nicollet, McLeod, and Todd; but in Wright, Cottonwood, and Mille Lacs they were comparatively innocuous.

In Iowa, Montgomery County had a very destructive visitation in the western part, the greatest injury being to the corn-crop. They are also noted in Lyons, Audubon, Cherokee, Adams, Mills, Cass, Woodbury, and Harrison. They did serious damage in the western part of Caldwell, Missouri, and in Daviess and Vernon. They swept all crops in Clay; but their injuries were comparatively trifling in Harrison. In Carroll they chewed tobacco.

In Hunt, Texas, they were injurious to the cotton-plant.

Kansas reports, as usual, a very serious amount of damage. In Marshall, three-fourths of the crops were destroyed, and equal damage sustained in Douglas and Doniphan. They were very bad in Neosho, Franklin, Jefferson, Wyandotte, Woodson, Nemaha, Miami, Cloud, Brown, Anderson, Allen, Republic, Johnson, and Osage. Lighter visitations are reported in Sumner, Shawnee, Reno, Jackson, Howard, and Crawford. In Franklin, the insects bore upon their bodies a destructive red parasite. This parasite was also noticed in Washington, together with a green fly, laying eggs in the body of the insect. In Miami, a grape-vine was saved by mulching with night-soil.

In Nebraska, they are reported as more or less injurious in Nuckolls, Franklin, Clay, Antelope, Johnson, Cass, Otoe, Gage, Hall, Knox, Madison, Stanton, and Richardson.

Cut-worms, (*Agrotis* sp.)—Different species of this genus are reported. In Franklin, Vermont, they injured corn; and in New London, Connecticut, corn, potatoes, and beans. Saratoga, Wyoming, Dutchess, and Genesee, New York; Westmoreland and Armstrong, Indiana; Washington, Pennsylvania; Caroline, Harford, and Montgomery, Maryland; Greenville, Virginia; Yadkin, North Carolina; Fannin, Georgia; and Madison, Florida, all report injury to field-crops. In Bandera, Texas, they cut off four-fifths of the cotton-crop. They were also injurious in Marion, West Virginia; Mahoning, Ohio; Van Buren, Michigan; and Maries and Montgomery, Missouri. They were especially destructive to sod-corn.

Colorado potato-beetle, (*Doryphora decem-lineata.*)—This insect has increased its destructive operations in the East, with serious demonstrations at various points in the West. It is reported in Oneida, Niagara, Queens, Rockland, Westchester, Delaware, Montgomery, Saratoga,

Wyoming, Jefferson, Orange, and Erie, New York. In Niagara the eggs were extensively destroyed by other insects. New Jersey complains of a visitation in Atlantic, Burlington, Monmouth, Camden, Gloucester, Hudson, Sussex, and Salem. In Pennsylvania they were noted in Cumberland, Westmoreland, Bucks, Columbia, McKean, Armstrong, Forest, Clinton, Lancaster, Butler, Bedford, Northumberland, Wayne, Indiana, Lehigh, Lycoming, Montour, Tioga, Washington, Dauphin, Luzerne, and Susquehanna. They were quite destructive in Kent and Sussex, Delaware. Maryland reports them in Caroline, Worcester, Frederick, Carroll, Baltimore, Dorchester, Harford, Wicomico, Cecil, and Howard. In Virginia their mischievous presence was felt in Culpeper, Roanoke, Spottsylvania, Augusta, Orange, Cumberland, Craig, Westmoreland, and Prince William. They also appeared, too late for early crops, in Richland, Louisiana. They did slight damage in Warren and Grundy, Tennessee. More or less injury was done in Wetzel, Tucker, Morgan, Marion, Jefferson, Mineral, Pendleton, Mercer, Hancock, Monroe, Preston, and Mason, West Virginia; in Jefferson, Spencer, Shelby, Lincoln, and Scott, Kentucky; in Trumbull, Perry, Morrow, Coshocton, Medina, Fairfield, and Crawford, Ohio; in Menomonee, Branch, Van Buren, Tuscola, Lake, Grand Traverse, Charlevoix, and Monroe, Michigan; in Rush, Decatur, Pike, and Tippecanoe, Indiana; in Lake, Madison, De Kalb, Fulton, Ogle, Macon, Iroquois, Hancock, De Witt, and Cook, Illinois; in Douglas, Columbia, Clark, and Green, Wisconsin; in Wright, Isanti, Sherburne, and Mille Lacs, Minnesota; in Dubuque, Story, and Howard, Iowa; in Vernon, Missouri; in Labette, Kansas; in Franklin, Mitchell, and Antelope, Nebraska. At various points the insects were successfully resisted with Paris green and other poisons; at others domestic fowls were turned into the potato-field, and found to be excellent scavengers. No reports of injury to the fowls.

Chinch-bugs, (*Micropus* [*Rhyparochromus*] *leucopterus*).—These insects do not appear to have recommenced operations on any considerable scale in the East. Halifax and Prince William, Virginia, found them somewhat troublesome in corn and wheat. They are also reported in De Soto, Mississippi; Limestone, Texas; Edwards, Clinton, Marion, Winnebago, Ogle, Macon, Hancock, Crawford, and Carroll, Illinois; Sauk, Vernon, Iowa, Columbia, Walworth, Green, Milwaukee, Dodge, La Fayette, and Crawford, Wisconsin; Gasconade, Vernon, Stone, Montgomery, Ballinger, and Newton, Missouri; Labette, Cherokee, Woodson, and Montgomery, Kansas.

Cotton-insects.—Caterpillars (*Anomis xylinæ; Aletia argillacea* of Hubner) were noted in Limestone, Bosque, Walter, and Matagorda, Texas, and in Woodruff, Arkansas; injuries small. Boll-worms (*Heliothis armigera*) are reported in Polk, Texas; cotton-lice (*Aphides*) in Chowan, Perquimans, Camden, and Edgecombe, North Carolina. In the last named it is specified that the insect in question is the blue or root louse, more destructive than the ordinary leaf-louse. These insects are also reported in Wayne and Jasper, Mississippi; in Smith, Texas; and in Van Buren, Arkansas. Cotton-grass-worms were destructive to cotton during two weeks in Hamilton, Texas. Web-worms (?) are reported in Travis, Texas.

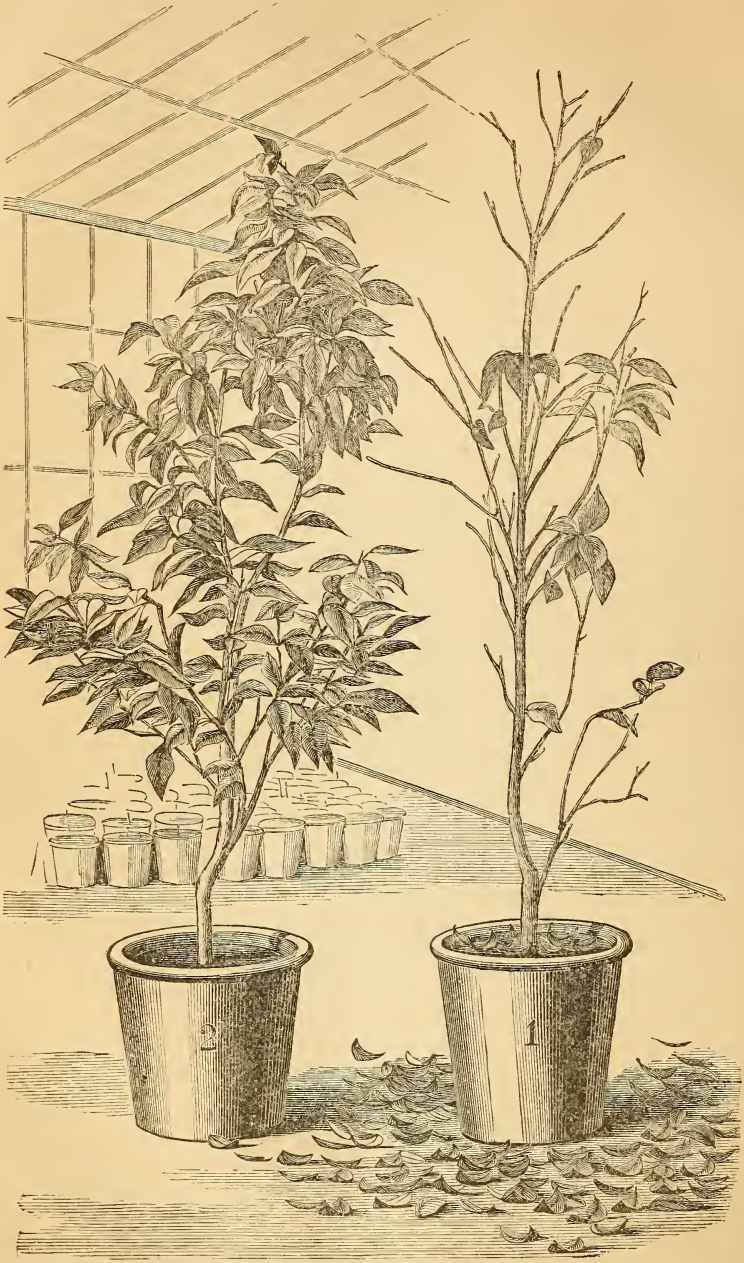
Miscellaneous.—Apple-worms (*Carpocapsa pomonella*) were destructive to fruit in Franklin, Vermont; Columbia, Oregon; and Salt Lake, Utah; fruit-caterpillars (*Clisiocampa*) in Androscoggin and Franklin, Maine; coddling-moths, cabbage-worms, (*Pieris rapæ*, &c.,) and currant or gooseberry worms in Westmoreland, Pennsylvania; bud-worms (?) in Hay-

wood, North Carolina; wire-worms (*Elater* sp.) in Washington and Dauphin, Pennsylvania; grub-worms (*Lachnosterna* sp.) in Rockingham, New Hampshire; Orange, New York; Washington and Vernon, Wisconsin; flat-head borers in Cloud, Kansas; slugs (?) ( ) in Kent, Delaware. Forest-worms (?) destroyed apple and forest foliage in Grand Isle, Vermont; tobacco-flies (*Macrosila carolina*) in Pittsylvania, Virginia; Hessian flies (*Cecidomyia destructor*) in Stone, Missouri; grass army-worms (*Leucania unipuncta*) in Greene and Obion, Tennessee; in Clinton, Alexander, Randolph, Sangamon, and Monroe, Illinois; in Gasconade, Howard, Saint Genevieve, Montgomery, Madison, and Ballinger, Missouri.

CHEMICAL MEMORANDA.

By Wm. McMurtrie, Chemist.

The influence of illuminating-gas upon the aerial portions of plants.—The subject of the influence of illuminating-gas upon vegetation has until within the past year or two been almost wholly neglected. In 1873 some observations made in Berlin Duin. Polyt. Jour., CCVI, 345, determined the fact that gas escaping from the pipes exerted an injurious influence upon the surrounding vegetation, with the roots of which it came in contact, and careful experiment showed that this effect could be observed when so small a quantity as 25 cubic feet per diem was distributed through 144 square feet of soil to a depth of four feet. In fact, the plants whose roots permeated this quantity of soil, 576 cubic feet, were by such treatment killed in a short time, and it appeared that less time was required to produce this effect when the surface of the ground was closed and more compact. During the same year J. Boehm, Chem. Centr., 1873, 755, made some experiments by passing coal-gas through the soil of pots containing varieties of fuchsia and salvia, and of the ten plants experimented upon seven died in four months. Further experiments convinced him of the fact that the plants were killed, not by the direct action of the gas upon the roots, but by poisoning the soil. It seems, therefore, pretty well established that when coal-gas permeates through the soil it has an injurious action upon the vegetation with which it may come in contact. My attention has, however, been attracted to a somewhat different action of the gas, which seems equally as destructive as that just described. Boehm found, in the course of his investigation, when cuttings of willow were placed in bottles containing a small quantity of water, and otherwise filled with illuminating gas, as the buds developed and the leaves began to appear the latter rapidly withered and died before reaching complete development. Now, this is the direction taken in my investigation. In Boehm's paper he does not state the percentage of gas in the atmosphere necessary to produce the effect described, and my object was therefore, if possible, to estimate the approximate quantity of gas required to bring about such results. The question arose out of a dispute concerning the destruction of an extensive stock of camelias in Philadelphia, in which it was alleged that the loss was due to the escape of gas from the street-mains. It was shown that the main was broken; that during the winter, the ground being frozen, there was no means of escape of the gas other than to work its way through the subsoil, and into the atmosphere through the ground of the interior of the greenhouse. The distance between the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main and the greenhouse is not stated, but it appears that trees growing between the former and the latter were completely killed. It was to determine whether the result in dispute could be effected by the action of the gas. The plants were growing in pots placed upon stands, and it was therefore impossible that they should be injured through the medium of their roots. It was then to determine what might be the influence of the gas in question upon the aerial portions of plants that the investigation about to be described was instituted. In order to secure such conditions that the plants might be confined in an atmosphere containing a given quantity of gas, and yet be provided with the requisite degree of light, heat, and moisture, the plants were placed in closed boxes, provided with glass sides, and the joints of which were cemented with white lead. When all was secured a tube of glass was introduced through the side of the box and connected with the stop-cock of a gasometer. The stop-cock of the gasometer was then opened, and the gas allowed to flow into the box, until the entire contents of the former were transferred to the latter. The whole was then allowed to stand until the following day, when the gasometer was again filled with gas taken from the pipes supplying the laboratory, and one-half the contents transferred to the box. On the next day press of other duties called my attention away from this work entirely, and the box therefore received no gas. On the fourth day, however, one-half the contents of the gasometer were introduced, and another day allowed to intervene before another application. Gas was then introduced into the box on four occasions, so that the amounts transferred, allowing ten gallons for the capacity of the gasometer, were, 24th, about 10 gallons; 25th, about 5 gallons; 27th, about 5 gallons; March 1, about 5 gallons. During this time an occasional leaf, as well as one of the buds, fell from the plant, and on March 2, on opening the box to apply water to the plant, a slight jar caused a number of the leaves to fall. The plant was then carefully removed from the box, when a sharp shock caused nearly all the leaves to fall. The leaves which had fallen were then gathered about the base of the plant, the whole placed in a convenient position, and, together with the other plant, which had been submitted to the same conditions excepting the treatment with gas, and which remained perfectly sound and healthy, was photographed. From the photograph thus obtained the accompanying illustration was made. Now, what was the relative amount employed? The dimensions of the box were, horizontal cross-section, two feet square; height, four feet. Calculating from the data at hand, we find that the amount first introduced was equivalent to about 7.7 per cent. of the entire volume of the box, and that the quantity subsequently introduced, being one-half this amount, was but 3.35 per cent. Without making any allowances for escape of the gas by diffusion, which probably took place, reasoning from the fact that when the box was opened no odor of gas was perceptible within the box, we find that after the first day the amount of gas did not exceed 4 per cent. of the volume of the box. It is however probable that the average quantity was much less than 3 per cent., and I am inclined to the opinion that if camelias or other plants be confined in an atmosphere containing continually 1 to 2 per cent. of illuminating gas, they must suffer, and ultimately be killed.

LIBERATION OF CARBONIC ACID BY RESPIRATION AND PERSPIRATION OF VARIOUS ANIMALS UNDER DIFFERENT CONDITIONS.—This subject has lately been very thoroughly studied by Dr. Rud. Pott, of Jena,

and he has found that the amount of carbonic acid given off by different animals in proportion to their weight in a given time was subject to considerable variation, dependent upon the species and the existing physiological conditions. His investigation consists of two parts:

First, estimation of the weight of the animal experimented upon, both before and after the experiment, the duration of the experiment in hours and minutes, the amount of carbonic acid separated during the experiment, and from the data thus obtained he calculates the final results for a period of six hours and for a given weight of animal, (100 grams.) Finally, he notes the consumption of air and the temperature of the room during the experiment.

Second, estimation of the amount of carbonic acid liberated in a given time by different animals under the influence of different colored light.

The animals experimented upon belonged to the mammals, birds, fishes, amphibians, insects, snakes, and worms, and with reference to the amount of carbonic acid eliminated in a given time they may be divided into two distinct groups; the mammals, birds, and insects constituting the first group, and the fishes, amphibians, snakes, and worms the second. Of the first group the birds liberate the largest relative amount of carbonic acid. The mammals range next to the birds, and the fishes liberate the smallest amount. The animals of group two liberate a much smaller relative amount than group one, and of this group the worms give off the largest and the snakes the smallest quantity. While in the air the aquatic animals of this group liberate a greater quantity than the other animals of the group, and a much smaller quantity while in the water.

The amount of carbonic acid set free depends largely upon the age of the animal, it being much greater in case of young than in old animals. But while this may be accepted as a general rule, an exception may be found among the insects, when the reverse is true, since the insects in the larval condition give off less carbonic acid than when fully developed. In case of the amphibians the amount liberated by young animals sometimes reaches three or four times, and even more than four times, that liberated by the old ones.

Sex also influences this action, it being more marked in the male than in the female sex. But the weight of the animal and the individuality have no influence upon it, and while the varieties in species must exert a not unimportant influence upon the quantity liberated and must produce some variation, the amount of this variation, in animals nearly allied to each other, is confined to very narrow limits.

The second portion of the investigation gave the following results:

Animals give off more carbonic acid when subjected to the influence of colored light than in daylight. Of the colored rays the violet and red rays exercise the mildest influence, the green and yellow and the white and blue medium. These results conflict with those obtained by Béchard, but are confirmed by those of Selmi and Piacarlini. Experimenting with animals (dogs, doves, and cats) in air-tight chambers into which only light of a given color could penetrate, the latter investigators found, by estimation of the carbonic acid eliminated in a given time, that the relative quantities given off under the influence of different colors, were as follows: White, 100; black, 82.07; violet, 87.73; red, 92; blue, 103.77; green, 106.03; yellow, 126.03. Analogous results were obtained in experiments with other animals. The average results obtained by the author in his experiments were as follows: Violet, 86.89; red, 93.38; white, 100; blue, 122.63; green, 128.52; yellow, 174.79.

During the night the elimination of carbonic acid was considerably diminished.

CHEMICAL RELATION OF THE ALKALIES CONTAINED IN ASHES OF PLANTS.—In two notes presented to the Academy of Sciences of Paris, and published in Comptes-Rendus, MM. P. Champion and H. Pellet have given results of a series of analyses tending to the establishment of a law that a fixed relation exists between the quantities of the alkalies present in the ashes of plants, depending upon the amount of sulphuric acid with which they are capable of combining chemically, and from the results of their labors it appears that to a limited extent the alkalies are capable of substituting each other in the economy of plant-growth. They have shown that while the quantity of sulphuric acid necessary to saturate each of the alkalies separately may vary in different samples, yet the sum of the quantities necessary to saturate all of them is tolerably constant. This may be accepted as a general rule, but is subject to some exceptions, depending upon the portion of the plant examined and special conditions of culture.

The following table, calculated from analyses of beets by different analysts, will serve to illustrate the principle:

	Analyses by—				
	Breischneider.	Wolf.	Karmrodt.	Fühling.	Average of eight other analyses by Kohlrausch and Petermann.
Quantity of sulphuric acid corresponding to the potassa and soda contained in 100 grams of ash	44.0	56.5	53	57	50.7
Quantity of sulphuric acid corresponding to lime and magnesia contained in 100 grams	30.1	17.5	23	17	24.2
Total sulphuric acid	74.1	74.0	76	74	74.9

From analyses of leaves of tobacco it appears that lime and potassa have the property of partially replacing each other according to their chemical equivalence.

BOTANICAL NOTES.

By GEORGE VASEY, BOTANIST.

NORTH AMERICAN MAPLES.

Maples are very justly considered to be among the most valuable and ornamental of forest-trees. They are natives of north temperate latitudes, none being found in countries south of the equator, nor in the torrid zone. They are confined to North America, Europe, and the temperate parts of Asia. Two of the European species have been introduced into cultivation to some extent in this country. These are the Norway maple, *Acer platanoides*, and the sycamore maple, *Acer pseudo-platanus*. A few other foreign species are occasionally found in public and private gardens. But the maples of our own country furnish a very interesting

variety, to which the lovers of good trees would do well to give more attention. The North American maples are divided, as to range, into, first, the maples of the eastern portion of the continent; and, second, those of the Rocky Mountain region and the western coast. The Eastern species are five and the Western four:

1st. The hard or sugar maple, *Acer saccharinum*, which has its home principally in Canada, New York, and the New England States, sparingly following the Alleghany Mountains as far as Georgia, and west of the Alleghanies occurring on many of the tributaries of the Mississippi. It is one of our largest forest trees, attaining a height of fifty to eighty feet. The sugar-yielding nature of its sap is well known. Its wood for many purposes of manufacture and for fuel is unequaled. When grown in open ground, it forms a broad-based, round-topped head of dense, dark foliage, clean and usually free from insect depredations, and, taken all in all, probably stands at the head of American ornamental trees, at least for the Northern States. It is of slow growth, and requires care in transplanting and until it becomes well established, after which it will richly repay all the labor bestowed upon it. There is a variety of this species, called black maple, said to be so called from a darker color of the foliage, which differs slightly in the form and pubescence of the leaves, but not sufficiently to constitute a distinct species.

2d. The white or silver-leaved maple, *Acer dascycarpum*. This tree is found generally at lower altitudes than the sugar-maple. It occurs on the borders of rivers, rather sparingly in the New England States, more frequently in the southern and western districts. It forms rather a low trunk, which divides into a great many long branches, with a very graceful, spreading habit. In favorable situations it attains a large size. The under surface of the leaves is of a pale silvery-white color, and contrasts beautifully with the rich green of the upper surface, especially when tossed by the breeze. It blooms profusely early in the spring, before the appearance of the leaves, and its large, broad-winged fruit ripens and drops when the leaves are fully developed. It is easily cultivated and grows rapidly, and hence is one of our most popular shade-trees. It is, however, liable to some objections; the long, slender growth of the limbs renders them liable to be broken by storms and by snow and sleet in the winter, and in some districts a borer has caused great loss by injuries to the trunk.

3d. The red or soft maple, *Acer rubrum*. This has a somewhat wider range of growth than, perhaps, any other species, being found from Maine to Louisiana. It grows in low, rich soil; and on the swampy borders of the large rivers of the South and West it is especially flourishing, attaining a great size. Although less vigorous on high lands, it yet maintains a healthy growth. It does not grow as rapidly as the silver maple, but the wood is harder and finer-grained, and the form of the tree closer and more compact. The twigs and flowers are of a deep red color. It flowers and matures its seeds in early spring; they are only about half as large as those of the white maple, and ripen at about the same time. The leaves are smaller and less divided than those of the white, and, like them, are silvery or whitish on the under surface. As an ornamental tree, it will probably be found more durable and satisfactory than the silver-leaved maple.

4th. The striped maple or moose-wood, *Acer Pennsylvanicum*. This is a small tree, seldom attaining a height of twenty feet, but is well adapted for planting in yards and shrubberies. Its native situation is in mountainous districts, particularly New England, New York, and in the Alleghanies to Georgia. The bark is smooth and light-green, mingled with

longitudinal blackish stripes. The leaves are large for the size of the tree, with a rounded or heart-shaped base, and spreading into three nearly equal short lobes. The fruit hangs in loose and graceful clusters, and, like that of the sugar-maple, is not ripe until autumn.

5th. The mountain maple, *Acer spicatum*. This species has much the same range of growth as the preceding. It is a smaller tree, seldom attaining a height of over eight or ten feet, being of a bushy habit. The leaves are similar in form to those of the striped maple, but smaller and more coarsely toothed on the margin. The tree or shrub is quite ornamental and deserving of cultivation. It becomes more vigorous and grows larger when grafted on the larger species.

6th. The Rocky Mountain or currant maple, *Acer glabrum*, Torr., *Acer tripartitum*, Nutt. This is a small bushy maple, growing from four to ten feet high, first occurring in the mountains of Colorado, thence extending southward to New Mexico and Arizona, and westward to Nevada and California. It has small, smooth, roundish, three-lobed or three-parted leaves, somewhat resembling those of a currant. It generally produces an abundance of fruit, which is about the size of that of the red maple. It would make quite an ornamental shrub, and is deserving of cultivation.

7th. The large-toothed maple, *Acer grandidentatum*. This species is found in the mountains of Nevada, thence extending northward to Oregon. It is a small tree, of slim growth, commonly twenty feet high, but sometimes attaining a height of thirty or forty feet, and one foot diameter of trunk. The leaves are similar in shape to those of the hard maple, but smaller and usually somewhat downy even when old. The fruit is of medium size, with broad and somewhat spreading wings.

8th. The round-leaved maple, *Acer circinatum*. This tree is common in the forests of Oregon and Northern California. It does not have the upright growth of other maples, but grows in clumps, several trunks springing from one root, and spreading out in a broad curve, the long, slender branches often arching to the ground, where they take root, and form tangled clumps which offer serious impediment to travel in the woods in which they occur. It seldom attains a greater diameter of trunk than five or six inches, and a height of from fifteen to forty feet. The wood is hard, heavy, and fine-grained. The leaves have about seven principal ribs, spreading out fan-like from the base to the circumference, united together more than half way, and terminating in about seven narrow lobes.

9th. The great-leaved maple, *Acer macrophyllum*. This is a native of California and Oregon. In the latter State it appears to attain its greatest magnitude, reaching, according to Nuttall, a height of fifty to ninety feet and a circumference of trunk of eight to sixteen feet. Like the sugar-maple, it abounds in a sugary sap, which, however, has not been utilized. Its wood is close-grained, hard, and shows freely those peculiar undulations of the grain which are called curled and bird's-eye maple. The leaves are large, not unfrequently a foot long, and deeply palmately five-lobed. The flowers are rather conspicuous, of a yellowish color, in drooping racemes, and somewhat fragrant. When in bloom it presents a very attractive appearance. The fruit or seed-carpels are larger than those of any other American maple, and are covered even when ripe with strong, stiff hairs, and hang late upon the tree in conspicuous drooping racemes. This species has been introduced into England, and there makes a fine ornamental tree. It is a pity that it is so little known in this portion of the United States.

MICROSCOPIC OBSERVATIONS.

By Thomas Taylor, *Microscopist.*

It has been decided by high authority that *Bacterium** consists principally of vegetable cellulose,† because, when subjected to a boiling solution of the alkalies, it remains undissolved. When rod-bacterium (*Bacterium termo*) is treated with a tincture of iodine, its interior structure is changed from its natural transparent whiteness to an amber color, which indicates the presence of protoplasm in its outer elongated cell. It is popularly supposed that any object composed of vegetable fiber must necessarily be devoid of animal life; and that, although many microscopic germs exhibit animal motions in water, they may, notwithstanding, be purely vegetable; but it has been demonstrated that parts of certain animals, as the mantle of the *Tunicata*, consist of cellulose. It may therefore be reasonable to expect, as a necessary consequence, the presence of analogous substances in them, such as animal starch, glycogen,‡ and chitine, § which are convertible into each other.

* One of the earliest organisms appearing in decaying and putrefying animal and vegetable solutions.

† Cellulose is the characteristic tissue of the vegetable kingdom. It forms the fundamental layer of all vegetable cell-walls. The young parts of plants consist chiefly of cellulose; it exists in a tolerably pure state in the pith of the elder-tree, (Johnston.) More recently, according to De Luca, it is found in the skin of the silk-worm and of serpents. Béchamp says that it is found in the vibrating corpuscles of the silk-worm. Löwig and Kölliker have recognized cellulose in the cartilaginous capsule of the simple *Ascidiæ*, in the leathery mantles of the *Cynthiæ*, and the outer tube of the *Salpæ*.

Chemical properties of cellulose.—When cellulose is treated with oil of vitriol, concentrated hydrochloric acid, or a concentrated aqueous solution of chloride of zinc, it yields products which are converted into glucose when their aqueous solution is boiled with water. Glucose is likewise produced in the decomposition of lignosulphate of lead, and by the action of alkalies on pyroxyline. But it is doubtful also whether this sugar should be regarded as dextro-glucose. According to Béchamp (*N. Ann. Chim. Phys.*, 48, 502,) it yields, when treated with alcohol, two sorts of crystals, one sort having the hardness of cane-sugar, the other resembling dextro-glucose.

The skin of the silk-worm and that which remains in the cocoons, when the butterflies escape, are capable of yielding a substance isomeric with cellulose, which may be converted into glucose. When the caterpillars are boiled for several hours with strong hydrochloric acid, and this treatment is repeated three times with the residue, and the residue is washed with strong potash-lye, then with water, and dried between 100° and 110°, a white, light substance, nearly free from nitrogen, is obtained, which gradually diffuses in oil of vitriol, forming a colorless gummy liquid. This solution added by small quantities to boiling water, and boiled for an hour or two, yields fermentable sugar which reacts like glucose with common salt and potassio-cupric tartrate. (De Luca, *Compt. Rend.*, 53, 102.)

‡ Glycogen, a term generally applied to animal starch, so called, discovered by Virchow, who found it in degenerated liver and spleen; also in diseased kidneys, brain-granulations, and concretions of the prostate gland. He says such tissues assume a reddish-brown or more rarely a dirty-brown violet color, when treated with tincture of iodine. When treated with oil of vitriol and iodine in succession, they acquire a green color, changing to a dirty violet or sometimes blue. (Gmelin's Chemistry, vol. XVIII, p. 334.)

§ Chitine resembles cellulose. It is supposed by some to be nitrogenous; it forms the elytra and integuments of insects and the carapaces of *Crustacea*. It may be obtained by exhausting the wing-cases of cockchafers successively with water, alcohol, ether, acetic acid, and boiling alkalies. The final residue retains completely the form of the wing-cases. Frémy prepares chitine by treating the tegumentary skeleton of a crustaceous animal with cold dilute hydrochloric acid, to removn calcareous salts; washing with distilled water; boiling for several hours with solutioe

Such is found to be the case, in some respects, in the vegetable kingdom, and since vegetable structure has been found in the mollusk alluded to, it may be presumed to be present in the higher forms of life, as in the vertebrates, including man; and as nature does nothing in vain, the presence of cellulose in animals would imply that it has some function to perform for which it is peculiarly adapted in their vital economy.

That the consideration of animal and vegetable pathology comes strictly within the scope of agricultural investigation, is demonstrated by the ravages of the rinderpest, horse-influenza, and numerous vegetable-blights, the cause or causes of which have so frequently eluded the

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of potash, which removes adhering albuminous substances, and has no action upon chitine; again washing with distilled water, and purifying the residue with alcohol and ether.

When chitine (from the carapace of the crab) is boiled for several hours with dilute sulphuric acid, only the softer membranes are attacked, while the more solid integuments become loose and soft, and form, after pressing and washing with water, a mass having almost the consistence of starch. The acid liquid supersaturated with lime, and then neutralized with sulphuric acid, yields neither tyrosine nor leucine, but contains ammonia, together with amorphose sugar, inasmuch as it precipitates cuprous oxide abundantly from an alkaline solution of cupric oxide. (Städeler.) Berthollet (*Ann. Ch. Phys.* [3] *lvi*, 149,) likewise obtained sugar from chitine, (prepared from the integuments of lobsters, crabs, and cantharides,) by macerating it in strong sulphuric acid till it was dissolved, dropping the solution into one hundred times its volume of boiling water, boiling for an hour, saturating with chalk, &c.

The above-mentioned pasty residue is colored brown-red by iodine, like unaltered chitine; and by prolonged boiling with sulphuric acid, yields an additional quantity of sugar, while the undissolved portion always contains nitrogen. The same substance, after removal of the acid, forms with water a turbid emulsion, which takes a long time to clarify, and dries up by spontaneous evaporation to a soft, skin-like membrane, which exhibits, with iodine-water, the same reactions as the original chitine. (Städeler.)

The composition of chitine is determined by the following analyses:

	Schmidt. Mean of 11 analyses.	Lemann.	Schlossberger.	Städeler.	Calculation. $C^9H^{15}NO^9$.
Carbon	46.64	46.73	46.64	46.32	46.35
Hydrogen	6.60	6.59	6.60	6.65	6.44
Nitrogen	6.56	6.49	6.56	6.14	6.01
Oxygen	40.20	40.19	40.20	40.89	41.20

Frémy found in chitine 43.35 carbon, 6.65 hydrogen, and no nitrogen; whence he regards chitine as isomeric with cellulose, (44.4 C, 6.2 H, and 49.4 O.) Gerhardt regarded Frémy's results as more correct than those of the German chemists, because chitine yields by dry distillation only acetic acid and empyreumatic oil, without any ammonia, and the products of its putrefaction under water are different from those of most nitrogenous substances. But the analyses above given exhibit a closeness of agreement which could scarcely be expected if the substances operated upon had been impure.

Städeler regards chitine as a glucoside, $C^9H^{15}NO^6$, which is resolved by boiling with acids into glucose and lactamide, (or alanine or sarcosine:)

$$C^9H^{15}NO^6 + 2H^2O = C^6H^{12}O^5 + C^3H^7NO^2.$$

If this decomposition really takes place, lactic acid should likewise be obtained as a product of the transformation of the lactamide or alanine; but the presence of lactic acid among the products has not yet been demonstrated. Städeler also suggests that chitine (at least in *Crustacea*) may be formed by the union of lactate of ammonium with gum, and elimination of water:

$$[C^3H^4O^3,H,NH^4 + C^6H^{10}O^5 = C^9H^{15}NO^6 + 2H^2O,]$$

Acid lactate of ammonium. Gum. Chitine.

Inasmuch as he has found gum in the juices of crabs and other *Crustacea*, the presence of lactic acid in the gastric juice of the lower animals is by no means improbable.

skill of the most scientific specialists of America and Europe. As long, therefore, as scientific men are unacquainted with any of the constituents of animals and vegetables, so long will they be unable to treat animal or vegetable maladies upon strictly scientific principles. Not only should we endeavor to discover all the constituents of their organs, and their relations to each other, but should also take into account those of the ever-active elements which surround them, as the temperature and humidity of the atmosphere, the effects of light and shade, climate, altitude, and geographical condition—as these are of the utmost importance in the investigation of every form of organic disease. If it can be shown that cellulose exists in all the important organs of the higher animals, the necessity of a more careful examination of its uses will become apparent; and such examinations may result in the discovery of new relations between animal and vegetable structure, while it may also necessitate a revision of received opinions as to the boundary-line between animal and vegetable life.

In consideration of the foregoing views, I have made a series of investigations with animal substances, commencing with the eggs of insects, the eggs of fowls, milk, cerumen, (ear-wax,) the flesh and blood of various animals, including man, and have found in them in every instance cellulose and animal starch, and in some cases capillary vessels, of a translucent red color, containing liquid starch, colored blue from the iodine used during my experiments. The following statement embraces the results of some of these experiments.

If about a cubic inch of liver, spleen, heart, brain, or muscle of the higher animals be immersed in two fluid ounces of caustic potash about twenty-four hours, at a temperature of about 80° Fahrenheit, it will dissolve completely. On the addition of acetic acid in excess, the potash will be neutralized, and a flocculent precipitate will fall, which, by ordinary filtration, may be separated from the liquid. Remove the filtrant by means of a sable-hair pencil, taking care not to remove any of the fiber of the paper with the animal matter. Place a small portion of the filtrant on a capsule, and add to it a drop of concentrated sulphuric acid, followed by one of the tincture of iodine. Then place a portion of the composition on a microscopic slide, covering it with a disk in the usual manner, and examine it with a power of about 100 diameters. Under these conditions blue granules of animal starch and structural cellulose will sometimes be seen, combined with amber-colored albuminous matter. Frequently starch and cellulose, although present, are not seen, but by subjecting the composition to friction, and adding a little more sulphuric acid and iodine, well-defined blue-colored structural forms become apparent.

The structure and chemical behavior of animal-starch granules differ in some respects from those of potato starch; the latter are at once dissolved by caustic potash and concentrated nitric and sulphuric acids, but animal starch is not so easily dissolved. As a general rule the latter resists for a considerable time the solvent action of these powerful chemicals. In form, animal starch frequently resembles potato starch. The granules of the former are found, however, to be sometimes as large as the .004th of an inch in their shorter diameter, by about .007th of an inch in their longer, while many of them are as small as the thousandth of an inch in their longest diameter, or even less. Animal-starch granules when compressed will frequently burst, and the liquid contents coagulate at once in the presence of sulphuric acid. I have found, during my investigations, hollow starch-granules intensely blue, from which their liquid starch had been expelled by pressure. Blue-

colored starch and cellulose structures sometimes appear of a green color in consequence of being covered with amber-colored albuminous matter. On the application of water and friction, the latter may be removed, when a deep-blue structure will become apparent.

I propose to resume my investigations on this subject at an early day, and will, as I progress, make careful drawings of every form of cellulose structure and starch-granules found in the important viscera of the animals under examination, carefully noting the forms and peculiarities found in each part.

PRODUCTION OF MUSCATEL RAISINS IN MALAGA.

By John A. Mark.

The cultivation of the Muscatel vine, notwithstanding that it supplies a source of such great wealth to the province of Malaga, and a vast commodity for exportation to almost every part of the world, in the shape of the universally-known Malaga raisins, is carried on in a way which generally is little to the credit of the cultivators.

The vines are generally very superficially planted, and the culture afterwards partakes very much of the same poverty of tillage. The consequence of this is that the majority of the fruit scarcely attains any size, is poor and skinny, and ultimately has to be foisted on the public in the shape of "corrientes," or what very erroneously are quoted as the *standard* from which all other and superior classes take their relative prices.

The vines should be planted in December and January, and I consider that the most favorable sites are those which lie on gentle slopes in the laps of the hills, as these generally are overlaid with the washing down of the finest and richest soils from above. These latter possess great fructifying power, with all the richness of the alluvium. These lands generally have a substratum of slaty rock, very frangible, and which, when broken up, readily mixes with the soil above and proves a most congenial ground for the vine, especially if it should be a decomposed slate tinged with oxide or peroxide of iron, and of a rich reddish color. This land retains the moisture most admirably, and therefore is most fitted to support the vine during the long summer droughts, which are inevitable.

Generally speaking, the vines are planted at about five feet distance from each other, at a depth of about two feet. Now, in this last circumstance lies all the fault of the general poverty of the vineyards, as, owing to this surface-planting, the roots live where all the digging operations injure them twice a year, and where they are thus also amenable to all the changes of atmosphere, drought, &c.

The correct thing is to plant them about 6 or 7 feet apart, according to the supposed richness of the soil, as when they are closer together they obstruct each other, both in their roots as well as their surface-growth, to say nothing of the more ample succulence which the soil thus affords them. The holes should be dug about 3 or 4 feet deep, and, if possible, the same diameter throughout. Then the finest and healthiest cuttings of the vines should be obtained, about 6 feet in length; they should be laid across the bottom of the holes, in a small trench which should be made in each, and then they should be brought up against the faces or walls of the holes, taking care that they be all laid and,

brought up uniformly, when they should be lightly filled in with the best of the soil, leaving about two or three germs out above the earth's surface. After this, for three consecutive years, if it is a rocky ground, a systematic breaking up between the vines should be carried on in December and January, availing always, if possible, of recent rains, as then the operation is rendered comparatively easy and less expensive, and it is very essential that during these years of education, or breaking in, the vines should be (each time they are dug up) bared down at least 18 inches of the stalk, so that all appearance of root may be removed with a knife, at the expiration of which time that portion of the stem loses its germinating tendency, and thus the plant is driven to live in the lower and moister soil, where it is more independent of the variableness of the surface. This process likewise enables the cultivator to dig up his land to any depth, with the certainty that he will not injure his vines, they having no surface-roots to obstruct the operation.

Among the cultivators of the Muscatel grape, it is customary to prune in two ways. The more wealthy proprietors, and those that can afford all the necessary expense and outlay in producing and packing superior fruit, invariably prune around the stump or head of the vine, cutting off all the last year's shoots at the second bud from the stem, thus throwing the full power of each new shoot into the one or two bunches of grapes which it can throw out; and it is a point with the pruner so to arrange his vine that the branches for pruning should be as evenly and fairly distributed around the stump as possible. All shoots which are thrown out from the top of the stump are invariably plucked off green by the good grower.

The poorer class of cultivators, who prefer quantity to quality, and who cannot afford to dedicate their energies to good fruit, on the contrary, prune all around, leaving two, three, or four shoots with half a dozen buds each, whereby the strength is thus disseminated through a large number of inferior bunches, and thus the majority of their fruit goes into the class of "corrientes."

In the neighborhood of Malaga, and in its "veyer," or valley, there are some very fine vineyards, which produce large quantities of good fruit; but, in the opinion of the writer, it will bear no comparison with carefully-grown fruit in the soil from the mountain-side, at first described by him, as in the rich alluvial soil of the valley the grape fills out too readily, making juice instead of flesh, which latter is the indispensable requisite for fine packing raisins.

The difference is readily preceptible after they have been packed for a few months. Those of the valley shrink up with a sharp edge and acute wrinkle, becoming very hard, whereas the mountain-grown retain their fleshy fullness and soft plastic nature. The former, when first packed, have a bluish velvety hue, whereas those from the hilly land assume a clarety-transparent color.

The writer is well aware that the Malaga classifyers prefer the dark-colored fruit, but he ventures to say that he considers this to be a chronic error, and one that time will effectually eradicate.

The only disease of the vine of any importance which has yet shown itself in the Malaga district is the "oidium tuckery." This has done vast damage, and has even totally devastated some "pedro garienez," or wine-vineyards, but by taking it in time and a systematic sulphuring, the danger has been readily averted in the Muscatel.

The process of drying this grape is naturally a very simple one, but, at the same time, there are so many little circumstances attending it,

which so materially affect the subsequent operation of packing, that the subject is worthy of some consideration.

In picking the bunches of grapes, scissors should be used, so that in this operation the fine ones should not suffer any rough treatment or handling, as, above every other consideration, the beautiful bloom of nature should be preserved intact.

The gatherer should, on the spot, sort out the superior fruit, and from the vineyard convey it in flat baskets, of about 2 feet diameter, and holding about forty pounds of grapes in a single layer, (as they must never press upon each other,) on his head, to the drying-floors, where he must lay the bunches most carefully, close up against each other, so as completely to hide the ground, especially taking care to place them with their finest, handsomest, and most perfect sides downward and next to the ground. The object of this is to preserve the beauty and bloom, so that they may subsequently adorn the face of the packed layers. The drying-floors require nothing but the natural earth on which the grapes have been grown, except that they must be nicely and neatly laid, and be kept free from dust.

The practice has always been to shelter the flats with boards or canvas tents at night or when it threatens rain. It is not a good plan, however, to cover the grapes for the first few nights after they are laid down: for it is found to be a very good thing to let them enjoy the dew and freshness of the night, which counteract in some degree the tendency to dry too rapidly. The writer, however, has introduced into his establishment covers made of galvanized corrugated-iron, which, although more expensive, he finds incomparably superior to those hitherto used. They are placed more rapidly, more completely, do not suffer through the sun as do the planks and canvas; and, above all other considerations, instead of absorbing the damp, which in a slight degree is drawn out of the ground, they rather retain it on the flat, thus keeping the stalks of the raisins tough and pliable, whereby the packers are enabled to arrange and lay their layers without such a large amount of fine fruit being snapped off and condemned to the loose-raisin class.

The time required for raisin-drying varies according to the season, the aspect of the flats, and many other causes, but I should say the average consumed may be computed at fifteen days; and one of the most important things attending the process is the selection of the proper moment for picking them up off the flats and packing or storing them.

The art of packing the fine fruit as at present in use, in the opinion of the writer, is a deplorable error, and one which should be abolished. It is dreadfully expensive and tedious, requiring an amount of handling which in food should be avoided. Instead, he would press on the public the superiority of the light-bunch-layers system, where no fraud can be practiced, and which can be carried out with scarcely any fingering, and where the purchaser sees at a glance the class of fruit which he is intending to eat.

The fine packing, except in certain and honorable cases, is the cloak for every kind of trickery and deception.

I should mention that one extensive grower has introduced an oven, with stoves, for the purpose of drying; but I understand from the packers who frequent his establishment that the raisins do not present the beauty of the sun-dried fruit.

FACTS FROM VARIOUS SOURCES.

AGRICULTURAL PRODUCTS IN GEORGIA.—The following statements are condensed from a report by the State department of agriculture in Georgia on the condition of farm-products, as reported the 15th of June: Condition of corn, 98; corn-forage, 99; and the acreage, 121. Wheat, not harvested, 90; the bulk of the crop harvested in good condition, and the yield 8 per cent. above average. Cotton, 100; late, but thriving. Winter oats, 106; spring, 80; the latter injured by drought and rust. The yield of both kinds 14 per cent. above that of last year. "It is well demonstrated that oats succeed better sown in the fall. It has also been demonstrated that a good stand may be secured by sowing in cotton about the 1st of September, without plowing in." The condition of rice was placed at 95; sugar-cane, 93; clover, 90—harvested in good condition. The wool-clip, 101. The annual loss of sheep by dogs is estimated at 15 per cent., and the loss by disease at 6 per cent. The reported daily average of milk per cow is one gallon; milk required for one pound of butter, $2\frac{1}{2}$ gallons. This would give but $2\frac{4}{5}$ pounds of butter per week; about one-third of a fair yield for a good cow well cared for. The honey prospect is placed 3 per cent. above average, and the yield per colony at 28 pounds.

IRRIGATION SCHEMES—PRELIMINARY OFFICIAL WORK.—Mr. Edward L. Berthoud, civil engineer and secretary of the territorial School of Mines located at Golden, Jefferson County, Colorado, addresses a communication to this Department, in which he proposes that the Engineer Department of the United States Army, the Chief Signal-Officer, the Smithsonian Institution, the Commissioner of the General Land-Office, and the Commissioner of Agriculture co-operate in obtaining uniform and accurate data upon the following points as preliminary aids in the investigation of proposed irrigation schemes:

1. To establish a uniform system of "gauging" the volume of water, and of ascertaining the cross-sections of all the streams and rivers in the several States and Territories; and that this be made a portion of the duties of all exploring and reconnoitering parties, of all signal officers and stations, and of all deputy United States surveyors running meridian, guide-meridian, standard, and township lines.

2. That, in addition to the measuring accurately such cross-sections, and determining the area of the streams at such sections, should be also a uniform method of obtaining the velocity of the water at the place of observation, to determine actual supply of water.

3. Such determination of volume and velocity should not only be taken when swollen by periodical rains or the melting of the snows of the mountain-ranges in which such streams originate, but should also be taken at their lowest stage, or when the effect of local storms or permanent snows has decreased to a minimum or entirely ceased.

4. That in a period of a few years, and at very small expense, we would get minima and maxima of amounts, which factors, determined for a constant period, would assist for the determination of the influences of cultivation, drainage, and the clearing of forest, not only upon the rain and snow fall, but upon the supply of water from our streams fed by the yearly snow-fall.

5. That the accurate measurement of the rain and snow fall in Colorado, &c., when obtained in the more level and open country at the foot of the mountains, is of but little value in determining the amount that the mountain-fed streams can or may produce, and that a rain-fall of from 10 to 14 inches has but little effect in the average growth of cereals and vegetables; that in all cases in Colorado, New Mexico, Utah, Arizona, and Southern California they must be watered by artificial means to insure certain results.

FERTILIZERS IN GEORGIA.—Hon. Thomas P. Jones, Commissioner of Agriculture of the State of Georgia, has issued a circular in which

are tabulated the results of the analyses of one hundred and twelve brands of fertilizers sold in that State. While showing still considerable deficiencies in important chemical constituents, there is a manifest improvement in the character of the articles sold. In addition to the chemical test, many intelligent planters are subjecting them to a careful soil-test, under regulations prescribed by the commissioner, a careful record of which will be published from time to time. The commercial values of the leading chemical elements of these fertilizers average about as follows: Nitrogen, (equivalent of ammonia,) 22 cents per pound; available phosphoric acid, 15½ cents; insoluble phosphoric acid, 4½ cents; potash, 6¼ cents.

The analyses in the circular "show an almost exact, and, in some instances, a complete correspondence in the composition of fertilizers sold under different names." During the season ending May 1, 48,648 tons of these compounds were sold in Georgia, at an average of $51 per ton, amounting to $2,481,048. "The best acid phosphates can be purchased at $40 per ton. Using 500 pounds of acid phosphates to the ton, composted with cotton-seed and manure, it will be necessary to purchase only one-fourth the commercial material to make the same number of tons of equal agricultural value. Only 12,162 tons of acid phosphate would be required to make all the fertilizers used in Georgia, which, at $40 per ton, would involve an outlay of only $486,480," saving annually $1,994,568, besides the freight on 36,486 tons, at $5 per ton, amounting to $182,430. The total saving thus indicated is $2,176,998, or more than the aggregate taxable property of 102 of the 137 counties of the State. It will average $15,883 to every county, and over $50 to every farmer in Georgia." It is more than twice the annual State tax; it would pay the whole State debt in four years; it amounts to 7 per cent. of the annual value of the cotton-crop; it will pay, in one year, the expenses of the State department of agriculture for one hundred and fifty years.

Improved cotton-gin.—Mr. H. A. Stearns, of Pawtucket, R. I., has invented a cotton-roller-gin that is considered a great improvement on the common saw-gins now in use. It does not injure the fiber by cutting, tearing, or napping; cleaning the seed more perfectly than any other gin, with a smaller amount of power, and entire freedom from danger of fire while in operation. Mr. Stearns has had many years' experience as a manufacturer of cotton, and is well acquainted with its nature, quality, and value. It has received two diplomas from the Georgia State Agricultural Society; one "for the best improvement in cotton-gins," the other "for the most important improvement relating to agriculture." A Georgia paper states that on test-trials of the gin there was an average saving of fifty pounds of lint to the bale, and of far better staple than that from any of the common saw-gins.

British imports of breadstuffs.—The imports of breadstuffs into the United Kingdom during the first six months of 1874 and 1875 are thus stated in the board of trade report:

Articles.	Quantity.		Value.	
	1874.	1875.	1874.	1875.
Wheat:				
From Russia ..... cwt..	2, 432, 414	3, 804, 880	£1, 537, 179	£1, 850, 253
From Denmark ..... cwt..	85, 310	71, 235	58, 852	35, 893
From Germany ..... cwt..	1, 551, 086	2, 029, 830	1, 137, 607	1, 084, 245
From France ..... cwt..	4, 227	258, 771	3, 235	129, 735
From Austrian territories ..... cwt..	482	12, 260	200	6, 562
From Turkey, Wallachia, and Moldavia .... cwt..	393, 647	348, 514	240, 418	160, 709
From Egypt ..... cwt..	103, 605	183, 616	65, 089	87, 619
From United States ..... cwt..	11, 503, 164	11, 099, 066	7, 733, 328	5, 680, 608
From Chili ..... cwt..	841, 887	311, 047	554, 963	160, 234
From British North America ..... cwt..	692, 742	582, 008	458, 419	292, 619
From other countries ..... cwt..	1, 479, 720	285, 197	991, 289	141, 194
Total wheat ..... cwt..	19, 088, 324	19, 986, 424	12, 780, 579	9, 629, 968
Barley ..... cwt..	4, 469, 650	5, 560, 925	2, 322, 932	2, 402, 220
Oats ..... cwt..	5, 785, 821	5, 540, 930	2, 602, 061	2, 501, 536
Pease ..... cwt..	719, 611	890, 546	335, 120	411, 133
Beans ..... cwt..	1, 218, 696	1, 606, 834	564, 849	743, 501
Grain manufactured ..... cwt..	8, 432, 316	9, 657, 725	3, 694, 899	4, 016, 736
Wheat-meal and flour:				
From Germany ..... cwt..	457, 150	327, 649	452, 470	265, 196
From France ..... cwt..	185, 044	1, 041, 186	204, 640	797, 892
From United States ..... cwt..	1, 902, 119	1, 100, 802	1, 753, 979	800, 823
From British North America ..... cwt..	171, 604	24, 758	157, 400	15, 812
From other countries ..... cwt..	802, 736	326, 303	823, 947	316, 863
Total wheat-meal and flour ..... cwt..	3, 518, 653	2, 820, 698	3, 392, 436	2, 196, 086
Indian-corn meal, including maizena ..... cwt..	2, 454	5, 059	5, 752	6, 547

BRITISH IMPORTS OF COTTON.—The following statement of the imports of raw and manufactured cotton is taken from the reports of the board of trade, and shows the aggregate import of the first half of 1874 and 1875, respectively:

Article.	Quantity.		Value.	
	1874.	1875.	1874.	1875.
Raw cotton:				
From United States ..... cwt..	5, 369, 190	5, 127, 295	£20, 208, 819	£18, 848, 730
From Brazil ..... cwt..	402, 280	443, 660	1, 593, 244	1, 613, 811
From Turkey ..... cwt..	8, 776	7, 851	32, 033	26, 014
From Egypt ..... cwt..	905, 215	818, 758	4, 264, 431	3, 760, 770
From British India ..... cwt..	1, 594, 825	1, 616, 926	4, 585, 994	4, 445, 167
From other countries ..... cwt..	104, 162	100, 482	409, 080	361, 682
Total raw cotton ..... cwt..	8, 384, 448	8, 114, 972	31, 093, 601	29, 056, 174
Cotton manufactures	.....	.....	839, 962	665, 720

MARKET-PRICES OF FARM-PRODUCTS, JULY, 1875.

The following quotations represent the state of the market, as nearly as practicable, at the beginning of the month:

Articles.	Prices.		
NEW YORK.			
Flour, superfine State and western ... per bbl.	$4 50	to	$4 80
extra State ... do ...	5 00	to	5 50
extra to choice western, per barrel ...	5 00	to	8 25
common to fair southern extras ... per bbl.	5 00	to	5 90
good to choice southern extras ... per bbl.	5 95	to	8 25
Wheat, No. 1 spring ... per bush.	1 22	to	1 25
No. 2 spring ... do ...	1 15½	to	1 21
winter, red, western, per bushel ...	1 30	to	1 36
winter, amber, western, per bushel ...	1 30	to	1 36
winter, white, western, per bushel ...	1 31	to	1 40
Rye ... per bush.	1 03	to	1 05
Barley ... do ...	— —	to	— —
Corn ... do ...	73	to	82½
Oats ... do ...	63	to	68
Hay, first quality ... per ton	17 00	to	22 00
second quality ... do ...	13 00	to	14 00
Beef, mess ... per bbl	8 00	to	9 50
extra mess ... do ...	10 00	to	10 75
Pork, mess ... do ...	20 70	to	20 85
extra prime ... do ...	16 00	to	16 50
prime mess ... do ...	19 00	to	19 50
Lard ... per lb	12¾	to	14
Butter, western ... do ...	16	to	27
State dairy ... do ...	20	to	30
Cheese, State factory ... do ...	10¾	to	12½
western factory ... do ...	9¾	to	11½
Cotton, ordinary to good ordinary ... per lb.	12⅞	to	14½
low middling to good middling ... per lb.	15	to	16¼
Sugar, fair to prime refining, per pound ...	7⅞	to	8¼
Tobacco, lugs ... per lb	9½	to	13½
low leaf to medium leaf ... per lb	12¼	to	17
Wool, American XXX and picklock ... per lb	55	to	60
American X and XX, per pound ...	50	to	53
American, combing, per lb	54	to	63
pulled ... do ...	30	to	50
California spring clip, per pound ...	23	to	34
California fall clip ... per lb.	18	to	24
BOSTON.			
Flour, western superfine ... per bbl	4 00	to	4 50
common western extra, per lb ...	4 75	to	5 25
red wheats, good to fancy northwestern ... per bbl.	5 00	to	8 00
white wheat, good to fancy western ... per bbl.	6 00	to	8 00
southern family ... do ...	6 50	to	8 00
Corn ... per bush	90	to	91
Oats ... do ...	62	to	75
Rye ... do ...	1 15	to	— —
Barley ... do ...	— —	to	— —
Hay, eastern and northern, per ton ...	16 00	to	22 00
choice western ... per ton	— —	to	— —

Articles.	Prices.		
BOSTON—Continued.			
Beef, mess ... per bbl.	$10 50	to	— —
extra mess ... do ...	— —	to	— —
Pork, prime ... do ...	21 00	to	$21 50
mess ... do ...	16 50	to	17 00
Lard ... per lb.	14	to	15
Butter, New York and Vermont, per pound ...	18	to	27
western ... per lb.	17	to	24
Cheese, New York and Vermont, factory ... per lb	10	to	12½
western factory ... do ...	10	to	12
Sugar, fair to good refining ... do ...	7⅛	to	8⅛
Cotton, ordinary to good ordinary ... per lb	13	to	14½
low middling to good middling ... per lb.	15¼	to	16½
Wool, Ohio and Pennsylvania, per pound ...	48	to	52
Michigan ... per lb.	48	to	51
other western ... do ...	45	to	50
pulled ... do ...	30	to	54
combing fleece ... do ...	41½	to	57
California ... do ...	18	to	38½
PHILADELPHIA.			
Flour, superfine ... per bbl.	4 00	to	4 50
Pennsylvania extra to choice ... per bbl.	4 25	to	6 00
western extra to patent, per barrel ...	5 50	to	6 00
Wheat, white ... per bush.	1 35	to	1 40
amber ... do ...	1 30	to	1 32
red ... do ...	1 26	to	1 30
Rye ... do ...	1 03	to	1 05
Barley ... do ...	— —	to	— —
Corn ... do ...	78	to	81
Oats ... do ...	58	to	64
Hay, prime baled ... per ton.	23 00	to	25 00
baled, common to fair shipping ... per ton.	20 00	to	22 00
Beef, western mess ... per bbl.	7 00	to	9 00
extra mess ... do ...	8 00	to	9 00
Warthman's city family, per barrel ...	16 00	to	— —
Pork, mess ... per bbl.	20 75	to	21 50
prime mess ... do ...	17 50	to	— —
prime ... do ...	15 50	to	— —
Lard ... per lb.	14	to	17½
Butter, choice middle State ... do ...	23	to	30
choice western ... do ...	17	to	22
Cheese, New York factory ... do ...	9	to	13
Ohio factory ... do ...	9	to	11
Sugar, fair to good refining ... do ...	7¾	to	8⅛
Cotton, ordinary to good ordinary ... per lb.	12⅜	to	14¾
low middling to good middling ... per lb.	15¼	to	17
Wool, Ohio X and XX ... do ...	50	to	54
other western ... do ...	35	to	50
tub-washed ... do ...	50	to	61
pulled ... do ...	26	to	52
combing ... do ...	52	to	62
BALTIMORE.			
Flour, superfine ... per bbl.	4 25	to	4 75
extra ... do ...	5 00	to	5 50
family and fancy ... do ...	5 50	to	6 50

Market-prices of farm-products—Continued.

Articles.	Prices.
BALTIMORE—Continued.	
Wheat, red .....per bush.	$1 16 to $1 30½
amber .....do...	1 28 to 1 32
white .....do...	1 15 to 1 35
Rye .....do...	95 to 1 00
Oats .....do...	62 to 68
Corn .....do...	76 to 87
Hay, Maryland and Pennsylvania .....per ton.	19 00 to 26 00
Pork, mess .....per bbl.	21 00 to — —
extra prime .....do...	16 50 to — —
Lard .....per lb.	14½ to —
Butter, western .....do...	13 to 20
eastern .....do...	14 to 22
Cheese, western factory ....do...	10 to 11
eastern factory.....do...	12 to 13
Sugar, fair to good refining.do...	7¾ to 8
New Orleans, grocery grades.....per lb.	— — to — —
Tobacco, lugs.....do...	8 to 12
common to medium leaf, per pound.....	12 to 14½
Cotton, ordinary to good ordinary .....per lb.	— to 14
low middling to middling .....per lb.	14¾ to 15⅜
CINCINNATI.	
Flour, superfine.....per bbl.	4 50 to 4 75
extra.....do...	5 00 to 5 25
family and fancy ....do...	5 30 to 7 00
Wheat, winter, red ....per bush.	1 17 to 1 22
hill, (amber).....do...	1 22 to 1 28
white .....do...	1 25 to 1 30
Rye .....do...	1 00 to — —
Barley .....do...	1 25 to 1 30
Corn.....do...	67 to 68
Oats .....do...	54 to 58
Hay, baled, No. 1.....per ton.	15 00 to 16 00
lower grades.....do...	9 00 to 14 00
Beef, plate ..... per bbl	— — to — —
Pork, mess .....do ..	20 00 to — —
Lard .....per lb.	14½ to 16
Butter, choice.....do...	19 to 22
prime.....do...	16 to 18
Cheese, prime to choice factory, per pound.....	10 to 11
Sugar, New Orleans, fair to good, per pound.....	8¼ to 8⅞
prime to choice....per lb.	9¼ to 9½
Tobacco, lugs .....do...	25 to 30
leaf.....do ..	30 to 38½
Cotton, ordinary to good ordinary .....per lb.	11¾ to 13
low middling to good middling.....per lb.	14 to 15
Wool, fleece, common to fine, per pound.....	40 to 43
tub-washed .....per lb	— — to — —
unwashed, clothing .do...	28 to 32
unwashed, combing .do...	38 to 40
pulled.....do...	33 to 38
CHICAGO.	
Flour, choice winter extras, per barrel.....	7 00 to 7 25
common to good winter, extras .....per barrel.	5 50 to 6 50
choice spring .....do..	4 75 to 5 50
patent spring .....do...	6 25 to 8 00
spring superfines....do..	3 50 to 3 75
Wheat, No. 1 spring ...per bush.	1 06 to 1 06½
No. 2 spring.....do...	1 02½ to 1 05
No. 3 spring.....do...	1 00 to — —
Rye, No. 2.....per bush.	90 to 91
Barley, No. 2 .....do...	1 02 to — —
Oats, No. 2 .....do...	52 to 52½
Corn, No. 2 .....do...	67 to 68

Articles.	Prices.
CHICAGO—Continued.	
Hay, timothy.....per ton.	$17 00 to $20 00
prairie .....do...	9 00 to 16 00
Beef, mess .....per bbl.	8 25 to — —
extra mess.....do...	9 25 to — —
Pork, mess .....do...	19 45 to — —
prime mess.....do...	— — to — —
extra prime.....do...	14 50 to — —
Lard .....per lb	13⅛ to 18½
Butter, choice to fancy ....do...	20 to 23
medium to good .. .do...	15 to 18
Cheese, good to prime factory, do.	10 to 11
Sugar, N. O., common to choice, per pound	— to —
Wool, tub-washed .....per lb.	40 to 53
fleece-washed.....do...	38 to 43
unwashed .....do...	25 to 33
SAINT LOUIS.	
Flour, winter, common to choice, per bbl.....	4 75 to 7 75
spring, common to choice, per bbl.....	4 50 to 5 50
Wheat, winter, white.. per bush.	1 25 to 1 32
red .....do...	1 10 to 1 32
spring .....do...	95 to 1 00
Corn .....do...	63 to 73
Rye.....do...	85 to 94
Barley .....do...	1 25 to 1 50
Oats .....do...	52 to 60
Hay, timothy.....per ton.	19 00 to 21 00
prairie .....do...	11 00 to 13 00
Beef, mess .....per bbl.	14 00 to 15 00
Pork, mess.....do...	21 00 to 22 00
Lard .....per lb.	12 to 14
Butter, prime to choice dairy, per pound.....	27 to 28
country packed...per lb.	14 to 16
Cheese, Ohio factory .....do...	13 to 13½
N. Y. factory .....do ..	13 to 13½
Cotton, ordinary to good ordinary .....per lb.	12½ to 15
ordinary to good middling .....per lb.	15 to 16¼
Tobacco, lugs.....do...	8 to 16½
common to medium leaf.....per lb.	9 to 15
Wool, tub-washed .....do...	53 to 55
fleece-washed.....do...	32 to 52
unwashed .....do...	28 to 36
NEW ORLEANS.	
Flour, superfine .....per bbl.	4 50 to 4 62½
extra .....do...	4 75 to 5 75
family to fancy.....do...	6 00 to 7 00
Corn, yellow .....per bush.	88 to 90
white .....do...	89 to 90
Oats.....do...	66 to 68
Hay, choice.....per ton.	26 00 to — —
prime .....do...	25 00 to — —
Beef, Texas.....per bbl.	10 00 to 11 50
western .....do...	16 00 to — —
Fulton market...per ½ bbl.	11 50 to 12 50
Pork, mess .....per bbl.	21 50 to 21 75
Lard .....per lb.	14½ to 15¼
Butter, choice Goshen.....do...	30 to 33
western .....do...	22 to 24
Cheese, choice western factory, per pound.....	10 to 12
N. Y. cream.....per lb.	17 to 17½
Sugar, fair to fully fair....do...	8¾ to 9
prime to strictly prime, per pound	9¼ to 9¾
clarified, white, and yellow.....per lb.	9¾ to 10½
Tobacco, lugs ..... do...	9 to 12
low leaf to medium.do...	12 to 14½

Market-prices of farm-products—Continued.

Articles.	Prices.	Articles.	Prices.
NEW ORLEANS—Continued.		SAN FRANCISCO—Continued.	
Cotton, ordinary to good ordinary ..... per lb.	$0 12½ to $0 13	Corn, white ..... per cental.	$1 50 to $1 55
low middling to good middling ..... per lb.	14½ to 15½	yellow ..... do...	1 40 to 1 45
Wool, clean lake ..... do...	33½ to 34	Hay, State ..... per ton.	12 00 to 20 00
SAN FRANCISCO.		Beef, mess ..... per bbl.	8 50 to 9 50
Flour, superfine ..... per bbl.	4 00 to 4 50	family mess ..... per ½ bbl.	6 50 to 8 00
extra ..... do...	4 75 to 4 80	Pork, mess ..... per bbl.	22 00 to 23 00
family and fancy .... do...	5 00 to 5 62½	prime mess ..... do..	16 50 to 17 00
Wheat, California .... per cental.	1 60 to 1 75	Lard ..... per lb.	14 to 16
Oregon ..... do...	1 60 to 1 70	Butter, overland ..... do..	20 to 25
Barley ..... do...	1 40 to 1 60	California ..... do...	25 to 35
Oats ..... do...	1 90 to 2 15	Oregon ..... do..	20 to 22½
		Cheese ..... do..	12½ to 15
		Wool, native ..... do..	10 to 15
		California ..... do..	15 to 27
		Oregon ..... do..	18 to 27

LIVE-STOCK MARKETS.

NEW YORK.		CHICAGO.	
Cattle, extra beeves .. per cental.	$13 25 to $13 50	Cattle, extra-graded steers, 1,400 to 1,600 pounds, per cental	$6 62½ to $6 75
good to prime ..... do....	12 25 to 13 00	choice beeves, 1,250 to 1,450 pounds, per cental.	5 90 to 6 37½
common to fair ..... do....	11 50 to 12 00	good beeves, 1,150 to 1,350 pounds ..... per cental	5 65 to 5 75
average of the market, per cental	12 00 to — —	medium, 1,100 to 1,250 pounds .... per cental.	4 90 to 5 12½
Texans ..... per cental	7 00 to 10 75	Texans ..... do....	2 30 to 2 70
milch-cows ..... per head.	50 00 to 108 00	milch-cows ..... per head	— — to — —
calves ..... per cental.	5 00 to 7 50	Sheep ..... per cental	2 50 to 4 25
Sheep ..... do....	4 25 to 8 50	Swine ..... do....	6 00 to 7 10
Swine ..... do....	9 25 to 9 75		
PHILADELPHIA.		SAINT LOUIS.	
Cattle, prime beeves .. per cental.	8 25 to — —	Cattle, fair to choice native steers, per cental	4 50 to 6 75
fair to prime ..... do....	6 00 to 8 00	common to fair natives, per cental	3 25 to 4 75
common ..... do....	4 00 to 5 75	inferior to common, per cental	1 50 to 2 87½
Sheep ..... do....	4 50 to 6 00	Texans, common to choice, per cental	2 00 to 4 25
Swine, corn-fed ..... do....	11 00 to 11 50	Sheep ..... per cental	3 75 to 6 25
BALTIMORE.		Swine ..... do....	6 60 to 8 00
Cattle, best beeves .... per cental.	6 00 to 7 25	Horses, plugs ..... per head	40 00 to 75 00
first quality ..... do....	5 00 to 6 00	plain ..... do....	80 00 to 110 00
medium or good quality, per cental	4 50 to 5 00	street-car ..... do....	75 00 to 125 00
ordinary ..... per cental.	3 50 to 4 50	heavy-draught .... do....	130 00 to 170 00
general average ... do....	6 00 to — —	good drivers ..... do....	100 00 to 150 00
most of the sales .. do....	5 50 to 6 50	extra ..... do....	175 00 to 180 00
milch-cows, fair to good, per head	30 00 to 40 00	Mules, 14 to 15 hands high do....	75 00 to 120 00
Sheep ..... per cental.	4 00 to 5 00	15 to 16 hands high .do....	120 00 to 165 00
Swine ..... do....	9 50 to 10 00	extra ..... do....	160 00 to 180 00
CINCINNATI.		NEW ORLEANS.	
Cattle, good to prime butchers' steers ..... per cental.	5 00 to 5 75	Cattle, Texas beeves, choice, per head	40 00 to 46 00
fair to medium .... do....	3 50 to 4 75	first quality .... per head.	30 00 to 35 00
common ..... do....	2 00 to 3 25	second quality ..... do....	20 00 to 25 00
milch cows .... per head.	30 00 to 45 00	western beeves ..... do....	— — to — —
calves ..... per cental.	3 50 to 4 50	milch-cows ..... do....	35 00 to 100 00
Sheep ..... do....	3 00 to 5 50	calves ..... do....	7 00 to 9 00
Swine ..... do....	6 75 to 7 20	Sheep, first quality ..... do....	5 00 to — —
		second quality ..... do....	3 00 to 4 00
		Swine ..... do....	5 00 to 10 00

FOREIGN MARKETS.

WHEAT.—The month of June in Europe was capricious and variable. The early outburst of summer weather in several countries was succeeded by a recurrence of low temperatures, with even frosty nights. The weather, however, recovered its summer character toward the close of the month. The variant prospects have caused much speculation in England as to the outcome of the growing crops, and considerable uncertainty caused dealers, on the one hand, to refuse to advance prices, while farmers seemed equally determined to hold on for better prices. Advices from foreign crops, and especially the June report of the United States Department of Agriculture showing the promise of the growing crop to be probably one-fifth short of an average, placed the game more fully in the hands of the farmers, although the English crops were in very favorable condition. Several local markets sent up wheat 1*s.* per quarter before the London market gave the signal. A subsequent further rise of 1*s.* per quarter has since been noted. A rising market is noted in Belgium, Holland, and some provinces of Germany. The drought in Russia and Hungary was expected to raise prices in those large wheat-producing countries, hence commercial authorities in Mark Lane had concluded not to rely upon the prevailing low rates. The disasters in France added to this tendency. The sales of English wheat during the week following June 18 amounted to 42,253 quarters at 42*s.* 6*d.*, against 29,925 quarters at 60*s.* 8*d.* during the corresponding week of 1874. The London averages were 44*s.* 10*d.* on 818 quarters. The imports into the United Kingdom during the previous week were 733,607 cwt. In Mark Lane, Essex and Kent white were quoted at 43*s.* to 48*s.* per quarter; ditto, red, 41*s.* to 43*s*; Norfolk, Lincolnshire, and Yorkshire, 41*s.* to 43*s.* Of foreign wheats, Dantzig mixed brought 49*s.* to 53*s.*; Königsberg, 45*s.* to 52*s.*; Rostock, 44*s.* to 47*s.*; Silesian red, 42*s.* to 44*s.*; ditto, white, 45*s.* to 48*s.*; Pomeranian, Mecklenburg, and Uckermark, red, 43*s.* to 45*s.*; Ghirka, 41*s.* to 42*s.*; Russian, hard, 39*s.* to 42*s.*; Saxonska, 42*s.* to 44*s.*; Danish and Holstein, red, 40*s.* to 45*s.*; American, red, 40*s.* to 42*s.*; Chilian, white, 40*s.* to 45*s.*; California, 46*s.*; Australian, 47*s.* to 48*s.* In Liverpool, Canadian brought 9*s.* to 9*s.* 4*d.* per cental; Red club, 8*s.* 9*d.* to 9*s.*; American white winter, 9*s.* 3*d.* to 9*s.* 6*d.*; No. 1 spring, 8*s.* 7*d.* to 8*s.* 9*d.*; No. 2 spring, 8*s.* 2*d.* to 8*s.* 4*d.*; extra Saidi, 7*s.* 9*d.* to 8*s.*; California, 8*s.* 10*d.* to 9*s.* 5*d.*; Oregon, 9*s.* 5*d.* to 9*s.* 7*d.*; Chilian, 8*s.* 10*d.* to 9*s.*; Australian, 9*s.* 5*d.* to 9*s.* 8*d.* In Paris, with plenty of offers, prices were unaltered at 40*s.* to 46*s.* per quarter. The market closed firm on account of the rains.

FLOUR.—The imports of flour into the United Kingdom during the week ending June 19 amounted to 58,648 cwt. The week opened in Mark Lane upon a moderate supply of English flour with small stocks of foreign. The best English town households were quoted at 36*s.* to 40*s.* per 280 pounds; best country households, 30*s.* to 32*s.*; Norfolk and Suffolk, 29*s.* to 30*s.*; American, per barrel, 21*s.* to 26*s.*

In Liverpool, English and Irish superfines brought 30*s.* 6*d.* to 32*s.* per 280 pounds; ditto, extra, 32*s.* 6*d.* to 34*s.*; French, 36*s.* to 42*s.* 6*d.*; Trieste, 48*s.* to 58*s.*; Spanish, 34*s.* to 38*s.*; Chilian, 30*s.* to 33*s.* 6*d.*; Californian, 34*s.* to 36*s.*; American, western and extra State, 20*s.* 6*d.* to 21*s.* per barrel; Baltimore and Philadelphia, 20*s.* 6*d.* to 22*s.* 6*d.*; Ohio and

extra, 22*s.* to 26*s.*; Canadian, 20*s.* to 23*s.* In Paris, superior flour for June was quoted at 33*s.* 8*d.* per quarter.

MAIZE.—In Mark Lane, white maize was quoted at 31*s.* to 32*s.* per quarter; ditto, yellow, 30*s.* to 33*s.* In Liverpool, American white brought 33*s.* 6*d.* to 33*s.* 9*d.* per 480 pounds; ditto, mixed, 31*s.* 9*d.* to 32*s.*; Galatz, 32*s.*; Trieste, 31*s.* 3*d.* to 31*s.* 6*d.* In Paris, maize had declined to 35*s.* per quarter.